TECHNOLOGY DEPARTMENT

TEXTILE WORLD

McGraw-Hill Publication ---------- OCTOBER • 1948

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OCT 13 1948
DETROIT

Textile World's COTTON-FIBER TABLE

ADDING OPERATION
Has Many Variables

High-speed continuous dyeing and finishing call for an intimate knowledge of padding principles. For a discussion of influences that affect quality, turn to page 124.

American System Used
For FINE WORSTEDS

Weight control in drawing aids production of fine, uniform yarns at Delaine Mills. Nylon yarns up to 60s spun. Details of wool spinning and nylon spinning begin on page 130.

BURLINGTON *MILLS' FILM*
Stresses Worker Importance

How Burlington Mills uses a movie to get across to workers that the quality of individual effort is important to individual jobs is told on page 103.

KOHORN

NEW RAYON PLANT IN CHILE STARTS PRODUCTION

Shown here during construction, the new rayon plant of Fabrica Victoria de Puente Alto. S. A., built and equipped by, and under the technical management of Oscar Kohorn & Co., Ltd., is now producing rayon. Kohorn machinery, Kohorn's patented chemical processes and Kohorn operating management combine to give Chile its newest and largest rayon plant. Filament rayon, rayon staple fiber machinery, power, chemical and water treatment plants were installed in record time. . . . Thus another complete project demonstrates that Kohorn is better qualified to establish the additional rayon plants that world markets need . . . without delay.

COMPLETE PLANTS for Filament Rayon, Rayon Staple Fiber and Cellophane equipped in 12 months.

OSCAR KOHORN & CO., LTD.

EXECUTIVE OFFICES

501 FIFTH AVE. NEW YORK 17, N. Y., U. S. A.

Pioneers of the Rayon Industry

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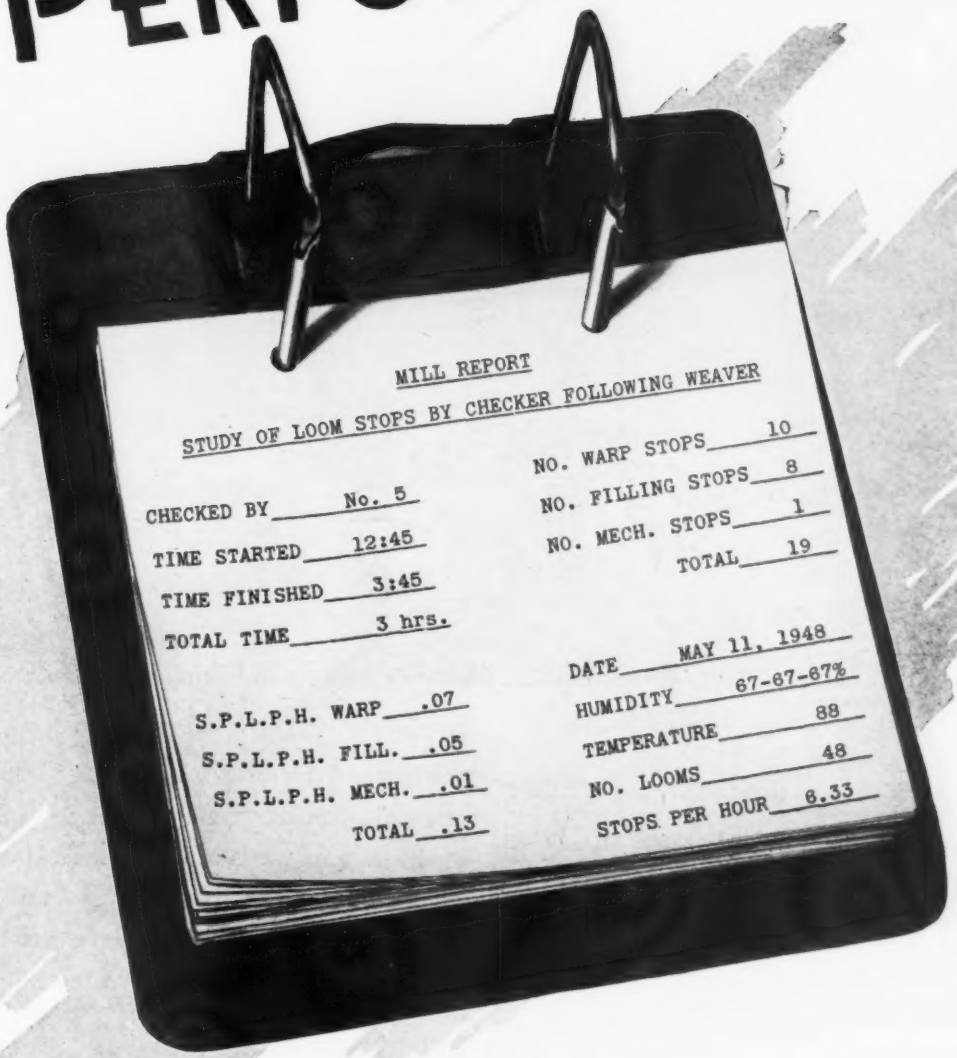
PROVEN PERFORMANCE



.13 Stops per loom per hour
6.33 Stops per 48 looms per hour

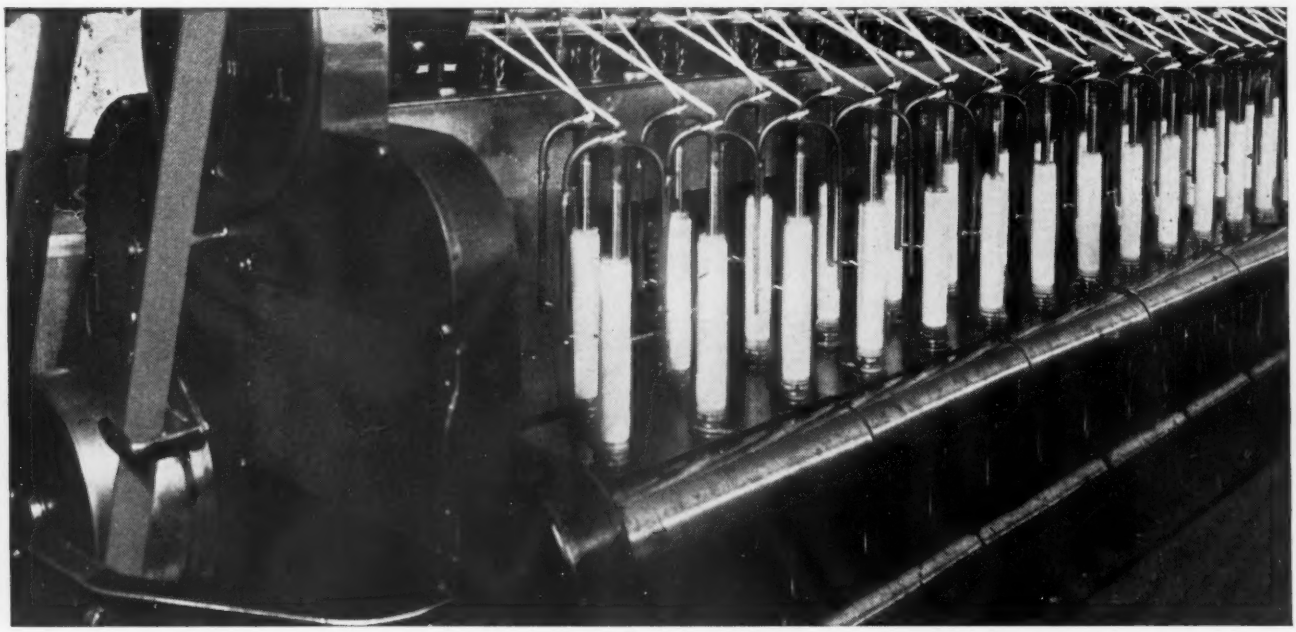
This is the report from a mill running their XD Model looms at 172 picks per minute. Only 6.33 stops for a weaver to handle each hour—a further indication of proven performance.

Look at the record!

DRAPER CORPORATION

Hopedale Massachusetts

Avoid Oil Stains



Lubricate with Texaco Stazon . . . it doesn't splatter, creep or drip

AVOID oil stain in spinning and weaving and you'll improve yarn and fabric quality and reduce costs. The lubricant to use is *Texaco Stazon*—it *stays on* the bearing surfaces.

Used on top rolls, for instance, *Texaco Stazon* won't creep onto the cot. Thus, sliver and yarn come through cleaner. On looms, *Texaco Stazon* resists shocks and vibration, won't splatter or drip onto the fabric. You get greater production of stain-free yardage.

Texaco Stazon is highly stable. It does not form gummy deposits . . . is not affected by humidity. Applications are longer lasting, therefore fewer applications are necessary.

Let a Texaco Lubrication Engineer help you select the proper viscosities to give you best assurance of cleaner yarn and fabric. Just call the nearest of the more than 2300 Texaco Wholesale Distributing Plants in the 48 States, or write The Texas Company, 135 East 42nd Street, New York 17, N. Y.

TEXACO

TEXACO Lubricants

FOR THE TEXTILE INDUSTRY

Tune in...Texaco Star Theatre every Wednesday night starring Milton Berle. See newspaper for time and station.

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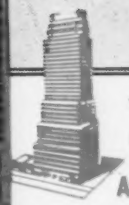

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OCTOBER, 1948

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THE *Long-Range* VIEW

Good Work Means Steady Work

In the keener competitive period which seems to have arrived in the textile industry, individual-worker productivity can be the factor that keeps a mill in or out of business. Some engineers estimate that worker productivity in all industry can still be raised 50%.

Recent bids on Quartermaster orders have shown that cost differences have narrowed considerably through universal application of up-to-date technology. Most of all, wages are tending to become equalized, greatly narrowing intersectional differences in labor costs.

Since the war, practically every mill has modernized, expanded, or both. Old machines have been put in top-notch operating shape or new machinery has been installed. But during this same period, men have become more important than machines. As a result, progressive mills are turning to means to increase the quality and quantity of individual human productivity. Burlington Mills has just taken a most significant step in textile human relations by recognizing the importance of individual effort and in trying to develop its human capital. The story is on page 103.

The methods employed by progressive mills are a result of recognized findings of industrial psychology. Two of these basic appeals are: (1) The worker likes to feel important. He can be made to feel important by his own knowledge of his part in the production picture and the mill's recognition of his part. Workers who know what contribution they are making to the finished product will prove better workers. (2) Work offers an outlet for inborn creative urges. What weaving overseer has not appreciated an opportunity to point with pride to finished garments made of fabrics recognized as originating on his looms? Shown that his work is creative, any worker will develop a sense of pride in the quality of his work. This creative pride can be stirred by showing the worker what happens to the products of the mill—the contribution they make to other workers and to society in general.

As part of feeling important, people like to feel that they control their own future. Nobody knows better than management that workers do control their own future. But neglect to teach workers through lessons in fundamental economics that they do control their own future has aided the growth of labor unions, which advertise the granting of a voice in management to their members. The Public Opinion Index for Industry reports that 48% of employed workers disagree that the way to improve the worker's standard of living is for all workers to produce more.

Lessons in fundamental economics are simple:

1. Make a better product than your competitors, make it for less, and you're in business. Your work is steady.

2. When quality of the product drops or cost of manufacture increases, work slackens. Competitors' business improves.

3. Moral: To work steadily, work well.

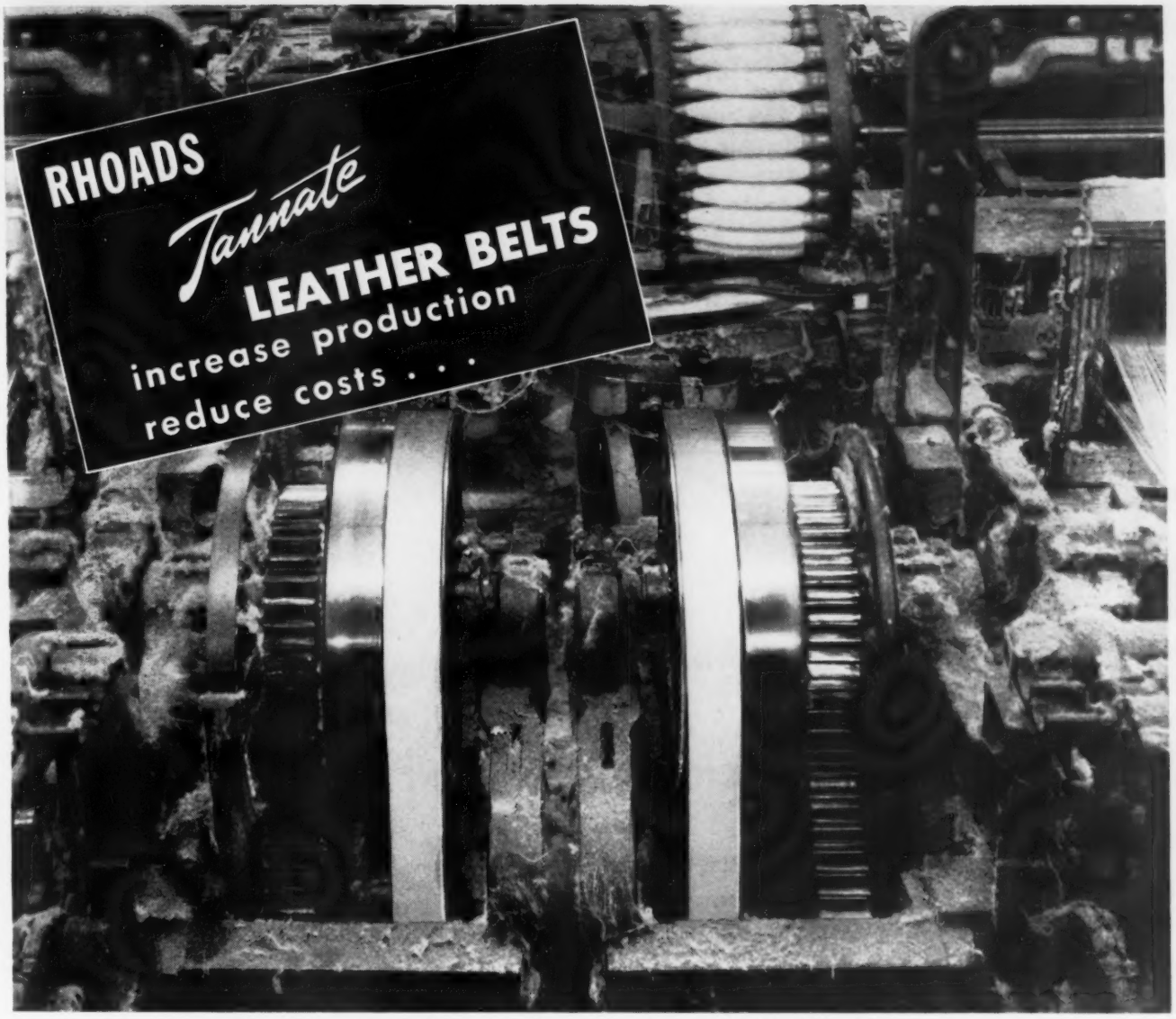
No labor union can alter these economic realities.

When you're one of 30,000 employees, or even one of 1,000 employees, it's not hard to feel insignificant. But for a worker to feel insignificant is serious—it affects quality, productivity, costs, sales, jobs. The worker should be conscious of something beyond his "job." He should understand how his work is applied by other people—how the results of his efforts are used and why they are important.

In addition to feeling important individually, workers like to feel—and can be made to feel—as part of a team. Successful business is made by many people—investors, managers, workers, salesmen, consumers. Workers like to "belong"; and the more they can associate themselves with the industry team, the better workers they will be. By careful orientation, management can show that it is desirable and necessary for workers to work harder and better. Show the worker that he is a consumer; that workers like him in other industries are consumers of the products of his work; and that if all workers pull together to hold costs down, their collective lot will be better.

Workers must be shown that not dollars, but goods, make the wealth by which a country's prosperity is measured. Without such knowledge, a day's work can be frustrating; with it, work can be enriched.

William A. Newell
ASSISTANT EDITOR



Driven from a line shaft under the floor, these looms have been TANNATE belted for about twenty-one years of trouble-free, low cost operation.

Whether for group driven installations or individual units, TANNATE leather belting can give you greater reliability and economy and low maintenance.

TANNATE offers maximum grip with minimum tension. This means more power transmitted with reduced wear on bearings and belt.

Flexible — it will operate well over small pulleys at high speed.

Resilient — TANNATE leather belting cushions shock loads.

Resistant to moisture and mineral oils — it will transmit full load even when damp.

Performance records are constantly proving that TANNATE leather belting assures greater uniform yardage — less spoilage — less maintenance — and higher profits.

For further details on how TANNATE can benefit you, too, write us.

STRAPS FOR LOOMS AND OTHER MECHANICAL LEATHER PRODUCTS

PRODUCERS OF FINE LEATHER FOR 246 YEARS

J. E. RHOADS & SONS

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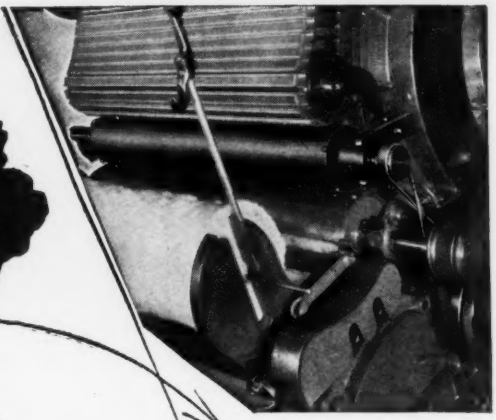
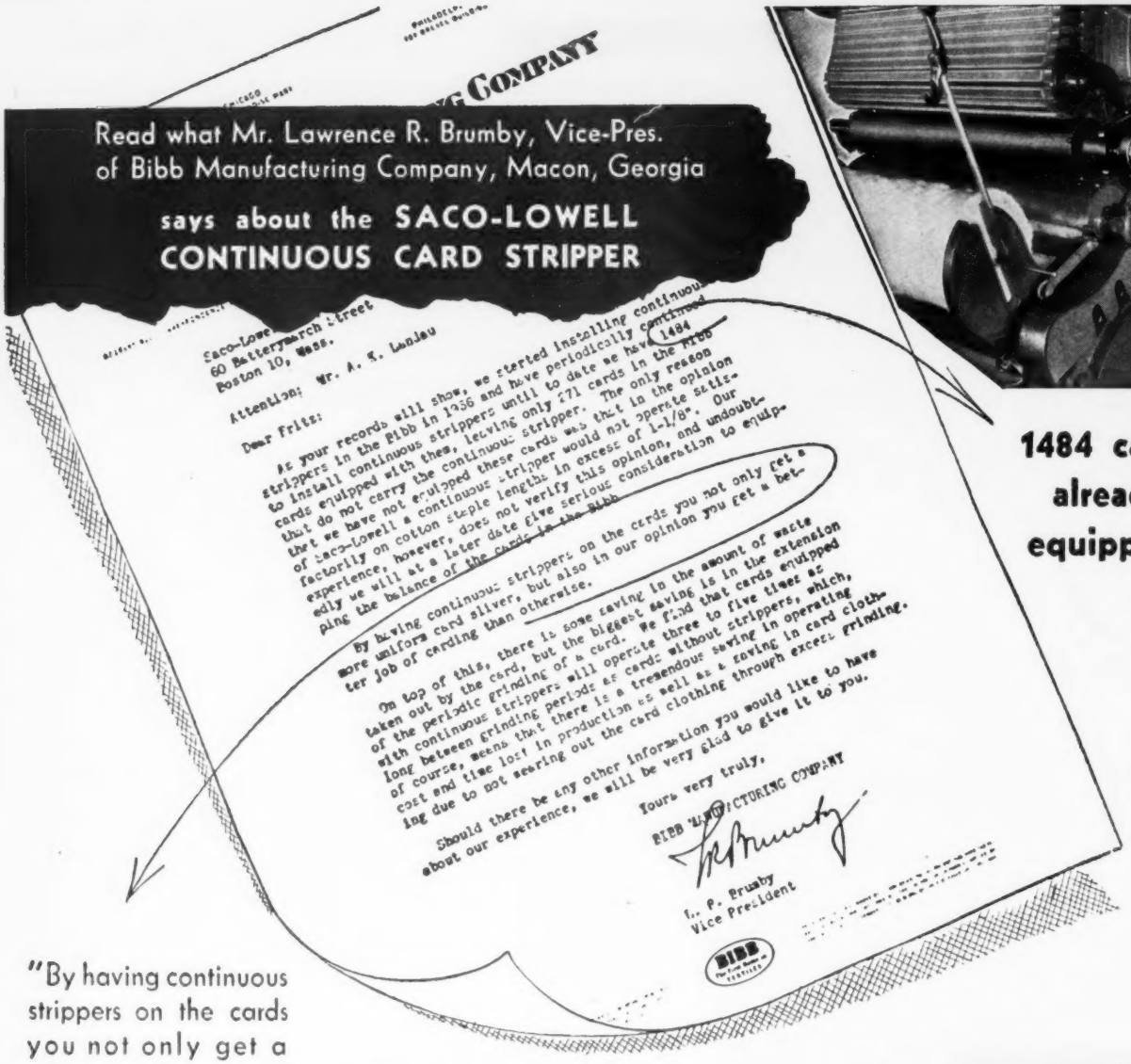
Read what Mr. Lawrence R. Brumby, Vice-Pres.
of Bibb Manufacturing Company, Macon, Georgia

says about the **SACO-LOWELL CONTINUOUS CARD STRIPPER**



1484 cards already equipped!



Saco-Lowell Shops
60 Batterymarch Street
Boston 10, Mass.

Attention: Mr. A. S. Lanleu

Dear Frits:

As your records will show, we started installing continuous strippers in the Bibb in 1936 and have periodically continued to install continuous strippers until to date we have 1484 cards equipped with these, leaving only 271 cards in the Bibb that do not carry the continuous stripper. The only reason that we have not equipped these cards was that in the opinion of Saco-Lowell a continuous stripper would not operate satisfactorily on cotton staple lengths in excess of 1-1/8". Our experience, however, does not verify this opinion, and undoubtedly we will at a later date give serious consideration to equipping the balance of the cards in the Bibb.

By having continuous strippers on the cards you not only get a more uniform card sliver, but also in our opinion you get a better job of carding than otherwise.

On top of this, there is some saving in the amount of waste taken out by the card, but the biggest saving is in the extension of the periodic grinding of a card. We find that cards equipped with continuous strippers all operate three to five times as long between grinding periods as cards without strippers, which, of course, means that there is a tremendous saving in operating cost and time lost in production as well as a saving in card clothing due to not wearing out the card clothing through excess grinding.

Should there be any other information you would like to have about our experience, we will be very glad to give it to you.

Yours very truly,

BIBB MANUFACTURING COMPANY

L. R. Brumby
Vice President

BIBB

"By having continuous strippers on the cards you not only get a more uniform card sliver, but also in our opinion you get a better job of carding than otherwise."

With cotton and operating costs at current levels, Continuous Strippers on the cards now operating will earn an annual return ranging from 75% to 80% . . . on new cards, from 88% to 92%. At this rate, your saving will liquidate the capital investment in about 14 to 16 months.

Saco-Lowell Continuous Strippers can be installed on almost all makes of cards. A special catalog giving technical and engineering data will be sent promptly on request . . . write our nearest office.

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Another Goodyear Performance Record

Round and round COMPASS goes and when she'll stop nobody knows

Goodyear Industrial Rubber Products
G.T.M.-Specified COMPASS FLAT BELT FOR TEXTILE MILL TWISTER DRIVE
The COMPASS belt is bodied with multi-strand cords, spiraled continuously without a splice. Cords on opposite side of belt axis are twisted in opposite directions to insure true running.
GOODYEAR

STILL going strong after more than 24,000 hours! That's the record to date of the COMPASS Flat Belt on the twister shown here. The G.T.M. — Goodyear Technical Man — specified the belt nearly four years ago. And it's been running 120 hours a week ever since it was installed — driving 104 spindles at 10,000 to 12,000 RPM.

The endless-cord construction of the COMPASS belt made it the G.T.M.'s choice for this severe-duty drive. COMPASS belts have strength and to spare because of the center layer of low-stretch cords, truly endless and laid up with both right and left twist to insure straight running. The tough, high-stretch fabric cover adds still more to belt life, even on the toughest drives.

If you're looking for a belt that's tough, flexible and with extremely long flex-life on killer drives, it will pay you to ask the G.T.M. about COMPASS. Or write Goodyear, Akron 16, Ohio.

Three More Textile Mill Record-Breakers by Goodyear

SLASHER ROLL — covered with high-quality rubber compounds that withstand high temperatures and chemicals without corrugating. Reduces flakage from 50% to 75%. Gives several years' service; eliminates maintenance.

TEXAIR HOSE — most economical ever built for cleaning spindles and carding machines. Light, supple, unusually strong cover won't soften or weaken from contact with oil, but is tough and resists cutting and abrasion, insuring longer life.

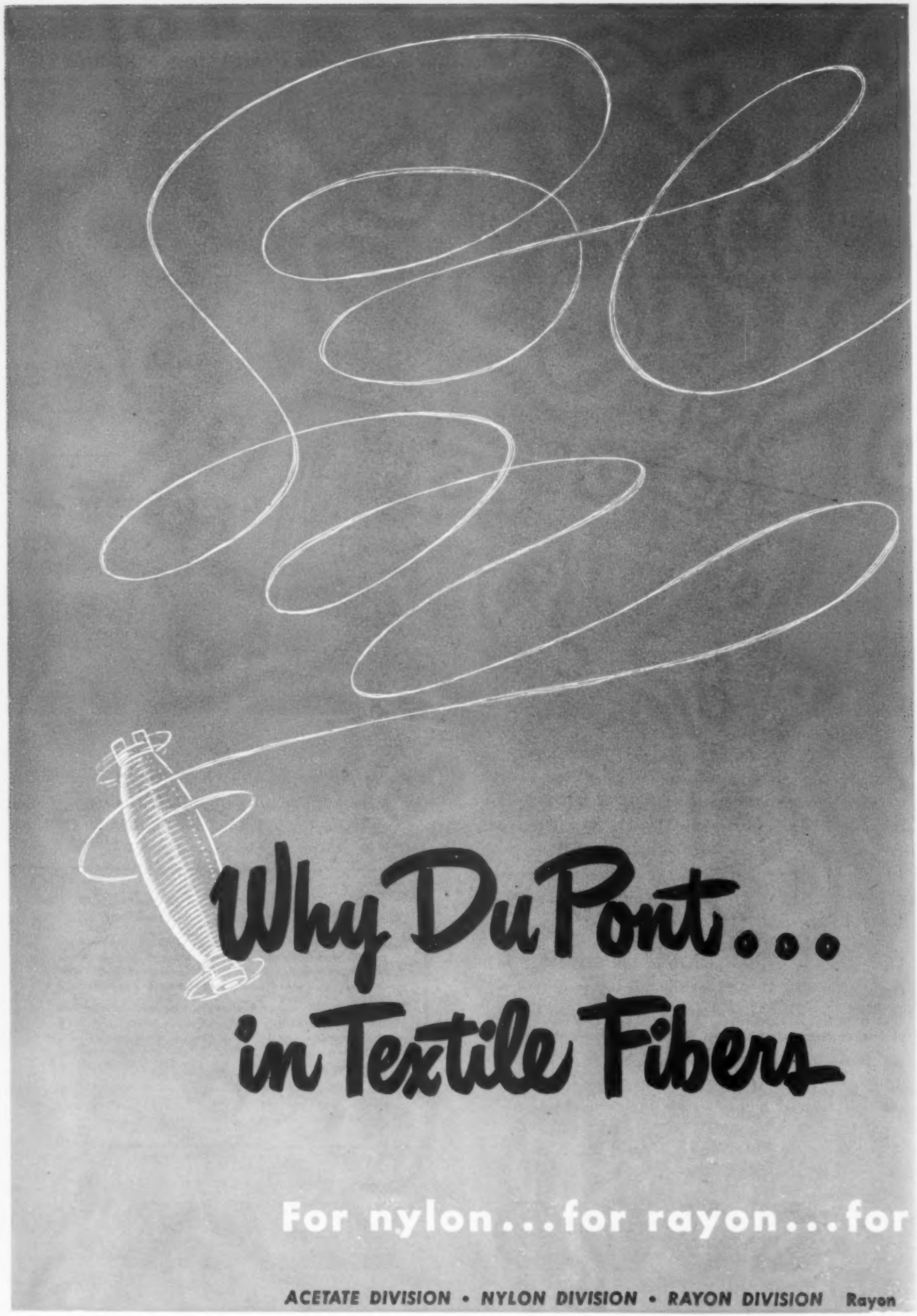
E-C CORD MULTI-V BELTS — uniform in length, cross section, pull and service life. Their perfect teamwork insures lowest ultimate cost.

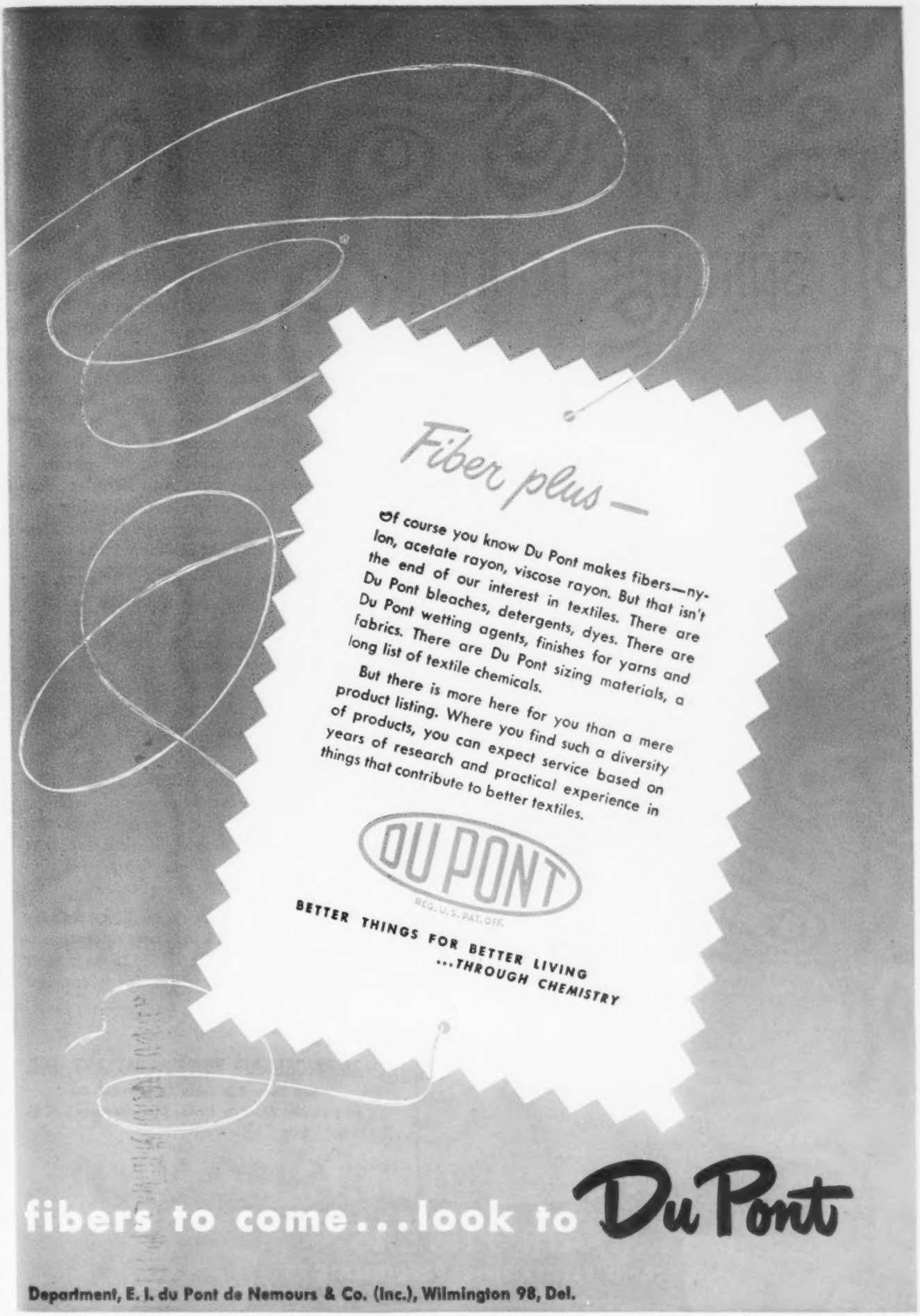
Compass, E-C Cord, Texair—T.M.'s The Goodyear Tire & Rubber Company

1898 50 1948

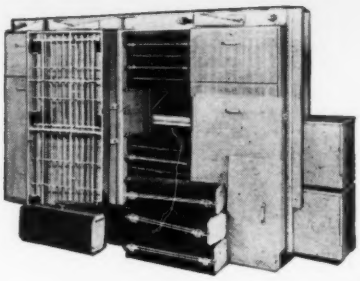
GOODYEAR

THE GREATEST NAME IN RUBBER


Why DuPont...
in Textile Fibers
For nylon...for rayon...for
ACETATE DIVISION • NYLON DIVISION • RAYON DIVISION Rayon


Fiber plus—
Of course you know Du Pont makes fibers—nylon, acetate rayon, viscose rayon. But that isn't the end of our interest in textiles. There are Du Pont bleaches, detergents, dyes. There are Du Pont wetting agents, finishes for yarns and fabrics. There are Du Pont sizing materials, a long list of textile chemicals.
But there is more here for you than a mere product listing. Where you find such a diversity of products, you can expect service based on years of research and practical experience in things that contribute to better textiles.
DU PONT
REG. U.S. PAT. OFF.
BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY
fibers to come...look to Du Pont
Department, E. I. du Pont de Nemours & Co. (Inc.), Wilmington 98, Del.

Soot and dust can't invade this spinning room



AAF Electro-Cell provides super-clean air to safeguard product quality

MILL operators have found that clean air returns a clear profit in the form of fewer rejects and seconds. That's why the air entering this spinning room is not only conditioned for temperature and humidity but completely free from damaging soot and dust. And here, as in so many mills, the job of delivering this super-clean air is entrusted to AAF Electro-Cell Electronic Precipitators.

In addition to its high efficiency, the Electro-Cell has many design features that appeal to the practical operating man. Removable collector plate cells permit manual washing and re-oiling in place, removing for cleaning in a special tank or automatic washing, drying and recoating with minimum interruption to operation.

Electro-Cell's sectional construction cuts weight, reduces number of electrical connections, protects wiring from dirt and water. Full height ionizers minimize electrical losses, reduce ozone and simplify ionizing wire replacement.

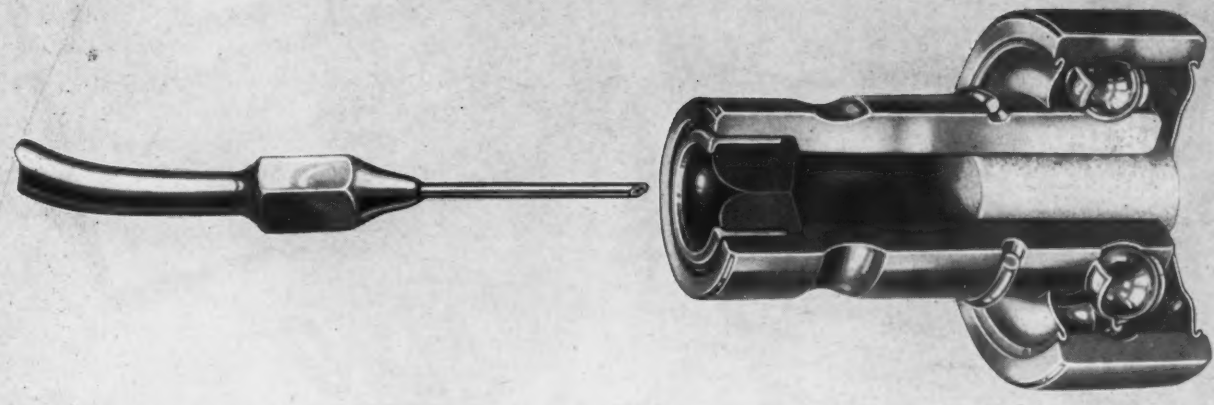
The complete story of Electro-Cell's high efficiency and low cost operation is contained in Bulletin 252. Ask your local AAF representative for a copy or write to—

AMERICAN AIR FILTER COMPANY, INC.
304 Central Avenue, Louisville 8, Ky.
In Canada: Darling Bros., Ltd., Montreal, P. Q.

AAF

AIR FILTERS
AND ELECTRONIC PRECIPITATORS

Can you think of anything this bearing will not do for a tape tension pulley?



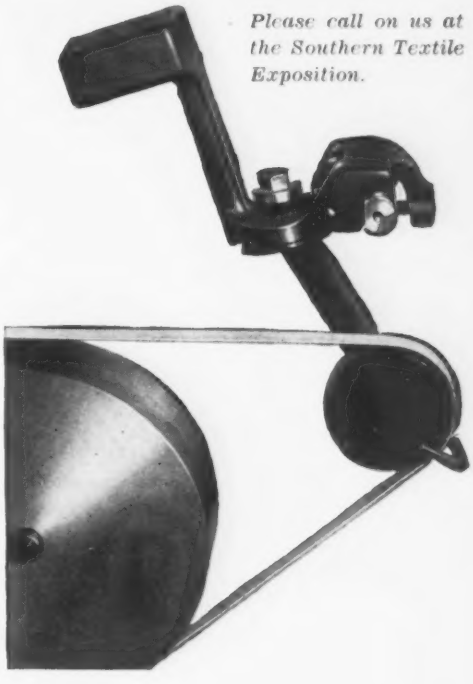
THIS New Departure ball bearing was designed specifically to be the heart of the ideal tape tension pulley. Self-enclosed against dirt and lint, it requires the addition of only a small amount of oil once every two or three years, and that is quickly injected through a built-in, self-sealing oiler. Inside, the oil is filtered through a felt wick and fed to the bearing parts as needed.

500,000 of these New Departure "specialists" in Saco-Lowell tape tension pulleys have operated over periods of nine years with no failures reported. Obviously that indicates uniform high quality.

But of equal importance in establishing this sort of a record are the lower power consumption, longer tape life, lighter tape tensions and uniform spindle speeds that these New Departure equipped pulleys help to assure.

34

Please call on us at the Southern Textile Exposition.



Nothing Rolls Like a Ball

NEW DEPARTURE
BALL BEARINGS

NEW DEPARTURE • Division of GENERAL MOTORS CORPORATION • BRISTOL, CONNECTICUT • BRANCHES IN ALL PRINCIPAL CITIES

DON'T MISS THE BIG "NEWS" AT FOXBORO BOOTH 412-413 SOUTHERN TEXTILE SHOW

NEW!

MULTI-RECORD DYNALOG* RECORDER

prints up to 6 temperature records, at 6-second intervals, in 6 different colors, on one ROUND chart! Absolutely no running together of colors.

*Reg. U. S. Pat. Off.

NEW!

ROLL SURFACE TEMPERATURE RECORDERS

give continuous accurate temperature record of any roll surface — control if desired. No scoring of roll, no ambient temperature errors.

NEW!

d/p CELL

Radically new simplified method for flow measurement of steam, air, or any liquid. 316 S. S. construction. Compact. Light weight. No mercury. Requires no condensing chambers, seals, or purges even in corrosive service.

NEW!

DEW POINT RECORDER

employing the F-patented Dewcel Element for humidity measurement or control. No water boxes, samples, refrigeration, or moving air. Dew point readings readily converted to relative or absolute humidity.

NEW!

DIAL THERMOMETER

with new 1/8" Self-protected Capillary and Bulb of Type 316 Stainless Steel. Bulb and capillary are one continuous welded assembly. No protective tubing needed. Specifically designed for corrosive atmospheres and vapors.

ALSO

MODEL 40 DUAL CONTROLLER

for controlling and recording density and liquid-level, conductivity and liquid level or pH and liquid level.

ELAPSED TIME CONTROLLER

DEFERRED ACTION CONTROLLER

CYCLELOG CONTROLLER

PNEUMATIC LOADING SYSTEMS

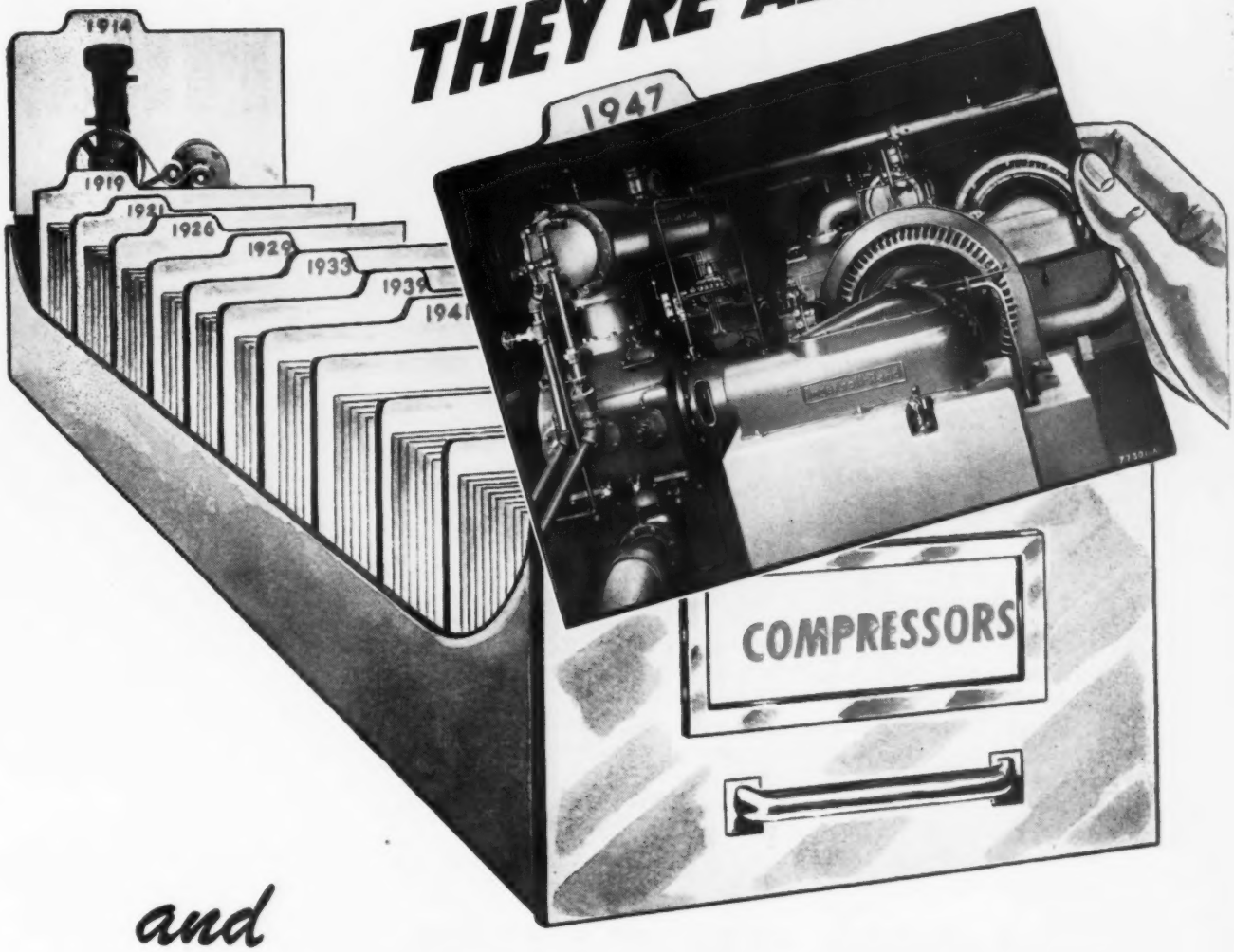
• • •

Everything about this exhibit is arranged to give you a clear, concise picture of the big "news" in instrumentation including actual demonstrations. Get your facts first-hand. Be sure to visit FOXBORO Booth Nos. 412-413. **The Foxboro Company 18 Neponset Ave., Foxboro, Mass., U. S. A.**

FOXBORO
REG. U. S. PAT. OFF.

RECORDING · CONTROLLING · INDICATING INSTRUMENTS

THEY'RE ALL I-R



and

ALL OPERATING TODAY!

34 YEARS of trouble-free service...and still in daily use. That's the record of a Wisconsin manufacturer's first Ingersoll-Rand compressor, installed in 1914.

Many times since then more capacity was needed. Each time another compressor was installed it was an I-R. Today there are 12 of them, newest of which are three Type XRE, direct-connected, synchronous-motor-driven units. From experience, this manufacturer knows that Ingersoll-Rand compressors are economical, dependable, and long-lasting.

It is interesting to note that all these compressors were purchased through the same I-R Engineer. In each case his knowledge and experience played a major part in the selection of the proper machine for the job.

When you need Air-Power, let one of our trained engineers give you the same help with your problems.

COMPRESSORS • AIR TOOLS
ROCK DRILLS • TURBO BLOWERS
CONDENSERS • CENTRIFUGAL PUMPS
OIL AND GAS ENGINES

Ingersoll-Rand

11 Broadway, New York 4, N. Y.

184-1

"Certified" Service

AN ADDED REASON FOR INVESTING IN ALLIS-CHALMERS MOTORS!

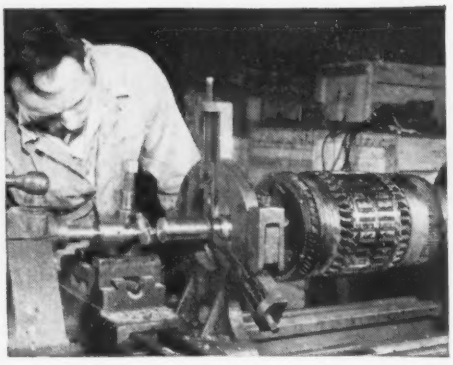
IT MEANS: 1) *Better, Faster Service.* Independent local repair shops are now being selected and authorized to service and repair Allis-Chalmers Motors, Transformers, Controls, Pumps — and "Certify" them as to workmanship.

2) *Finest Parts and Workmanship.* Shops use genuine Allis-Chalmers repair parts — or parts of equal quality; and are given complete service information, including factory procedure and drawings where necessary.

3) *Friendly Service.* Every Allis-Chalmers "Certified" Service Shop has been selected on the basis of its reputation in its community. It's the kind of company you *like* to do business with!

How can you get this service? For the present most "Certified" Service Shops are located in the larger U. S. industrial areas . . . but they're expanding rapidly. Call your nearby A-C District Office or Authorized Dealer for closest recommended shop. ALLIS-CHALMERS, MILWAUKEE 1, WIS.

FINER, FASTER, FRIENDLIER SERVICE FOR INDUSTRY!



The A-C Supply Company of Cuyahoga Falls, Authorized Allis-Chalmers Dealer and newly-appointed "Certified" Service Shop, is staffed and equipped to give prompt, efficient, top-quality repair and service aid to customers in the greater Akron industrial area. Typical of the kind of "Certified" Service organizations being selected throughout U.S.

MANY SIZES, RATINGS OF ALLIS-CHALMERS STANDARD SQUIRREL-CAGE MOTORS ARE NOW AVAILABLE FROM STOCK. CHECK YOUR AUTHORIZED A-C DEALER, OR DISTRICT OFFICE FOR DETAILS.

A 2506

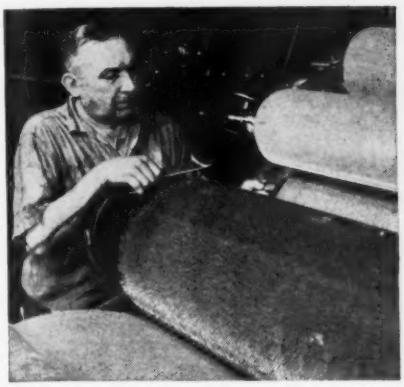
ALLIS-CHALMERS

One of the Big 3 in Electric Power Equipment—Biggest of All in Range of Industrial Products

Wool
Cotton
Rayon

What's your problem?

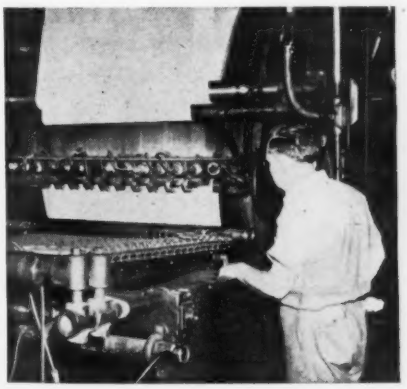
One of these Process Products may improve your Operations...Cut Costs



WOOLENS . . . S/V Woolrex Oils, sprayed on your stock, give you longer card runs before stripping, keep fibers soft and pliable during spinning, and then scour out easily with minimum amounts of soap. Get full details.

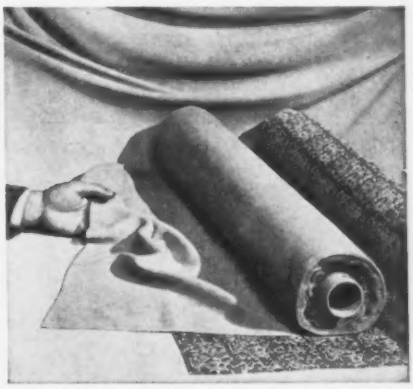
WORSTEDS . . . With S/V Worstex Oils, you can be sure of lofty white tops that *stay* white. You get uniform drawing and gilling, cleaner drawing rolls and more continuous operation. Spinning is improved.

COTTONS (FINISHING) . . . For finishing operations on cotton fabrics, you'll get excellent results with S/V Finishing Oils A and B. These products form highly dispersed emulsions, penetrate into the fibers.



COTTONS (PRE-SHRINKING) . . . In pre-shrinking operations, S/V Finishing Oils assure quick, uniform rewetting. They have proved their superiority in such fabrics as twills, drills and denim, as well as in lighter materials.

COTTON (WATER-REPELLENTS) . . . S/V Fabrisecs AA, BB, MP, add maximum water repellency to your fabrics with minimum amounts used. They're unaffected by atmospheric temperatures and have no objectionable odor.



RAYONS . . . If you're processing rayons, investigate Socony-Vacuum's special oils for your operations—S/V Rayon Soaking Oil, S/V Rayon Coning Oil, and S/V Prorex Oil F, for delustering viscose rayon yarns.

Socony-Vacuum Process Products

Process Products
SOCONY-VACUUM

SOCONY-VACUUM OIL CO., INC., 26 Broadway, New York 4, N. Y., and Affiliates: MAGNOLIA PETROLEUM CO., GENERAL PETROLEUM CORP.

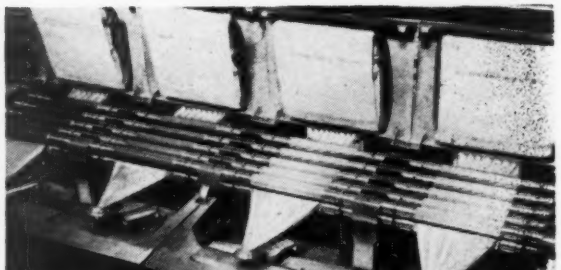
reach for your telephone....

and solve your production problems

—that's all you need to do if your mill is behind production schedule because of costly breakdowns.

From opening to finishing, Medley engineers in 3 modernly equipped plants can help you get peak performance from any piece of textile equipment needing repair or replacement parts QUICK. Medley planned it that way when they arranged to have a plant easily accessible to all the important textile manufacturing centers.

Whether you need us now or not, for future reference, learn about the Medley System and its complete textile engineering service. When you need quick, expert help...



Let Medley tell you about their famous "8 Ends Up" Drawing and how you can step up production by having your present frames changed over to this more efficient process.

South or Southeast . . . CALL

Medley Manufacturing Company

Columbus, Ga. 2-1695

South or South Central . . . CALL

Gastonia Roller, Flyer & Spindle Co.

Gastonia, N. C. 5-1531

North or Northeast . . . CALL

Allan Textile Machine Co.

Pawtucket, R. I. PErry 7075

The MEDLEY System, Inc.

400 32nd ST., COLUMBUS, GEORGIA

Medley Manufacturing Co., Columbus, Ga. • Gastonia Roller, Flyer & Spindle Co., Gastonia, N. C. • Allan Textile Machine Co., Pawtucket, R. I.

SANDOZ PRESENTS

the color achievement of the month

"Cooler" Achievement

...BY DAN RIVER MILLS

Dan River Mills' "River Cool" keeps customers from getting "hot under the collar" in more ways than one.

Suits made from this summertime fabric are as light as a breeze on days when the air is hot and heavy . . . the rayon weave is so resistant to wrinkling that a business suit is still in shape at the end of the day . . . and the colors are extremely fast to perspiration, pressing and cleaning.

For dyes and auxiliary chemicals that help build *sales appeal* and *service* into fabrics, many firms of Dan River Mills' calibre come to Sandoz. Among recent Sandoz developments is

CUPROFIX

a new after-treatment for certain *direct* dyes giving results on cellulosic fibres that are superior to diazotized and developed colors. Cuprofix Colors and Cuprofix after-treatment greatly improve fastness to both acid and alkaline perspiration, home laundering and hot wet pressing. There is no migration of color while in the wet state. Even light fastness is improved in some cases (particularly in comparison with developed dyes).

Send for free sample. And for any acid, chrome or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you see in these Sandoz advertisements.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N. Y.

Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto. • Other branches at Providence and Paterson.

SANDOZ *thinks ahead with textiles*

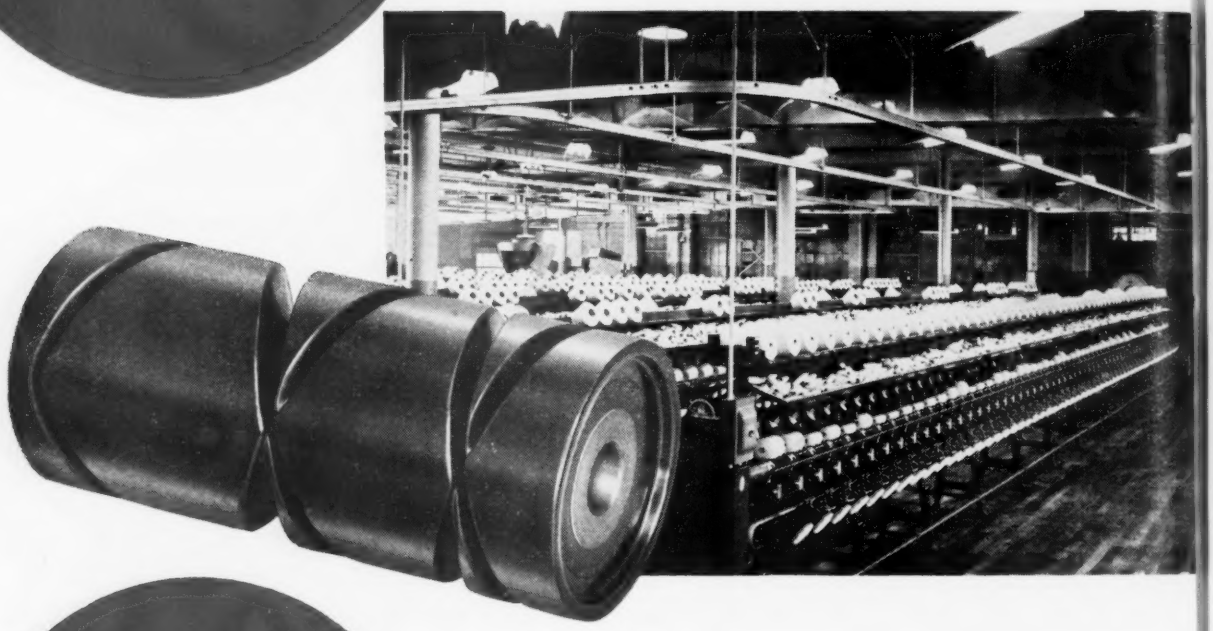
SANDOZ

IN THE
Winding Room
AT WEST BOYLSTON

*It's Roto-Coners**

This is one section of the winding room at the Boylston, Alabama mill of West Boylston Manufacturing Company of Alabama. The machines are Roto-Coners*, the winding machines for cotton yarn† which are now being selected *in the majority of cases* for new installations and replacement of old winding equipment.

†And in slightly different form for wool and worsted, spun rayon



IN
Roto-Coners*

It's the Rotary Traverse

This is the rotary traverse, the exclusive one-piece combination driving drum and traverse guide. It is the major reason why the Roto-Coner* can be operated at speeds up to 550 ypm regardless of yarn count, and at a cost for maintenance of less than ½ of 1% on investment. It is also the reason why packages wound on the Roto-Coner* – uniform in shape and density, free from roll-outs and underwinds, accurately inspected – are preferred for knitting, warping, dyeing, twisting.

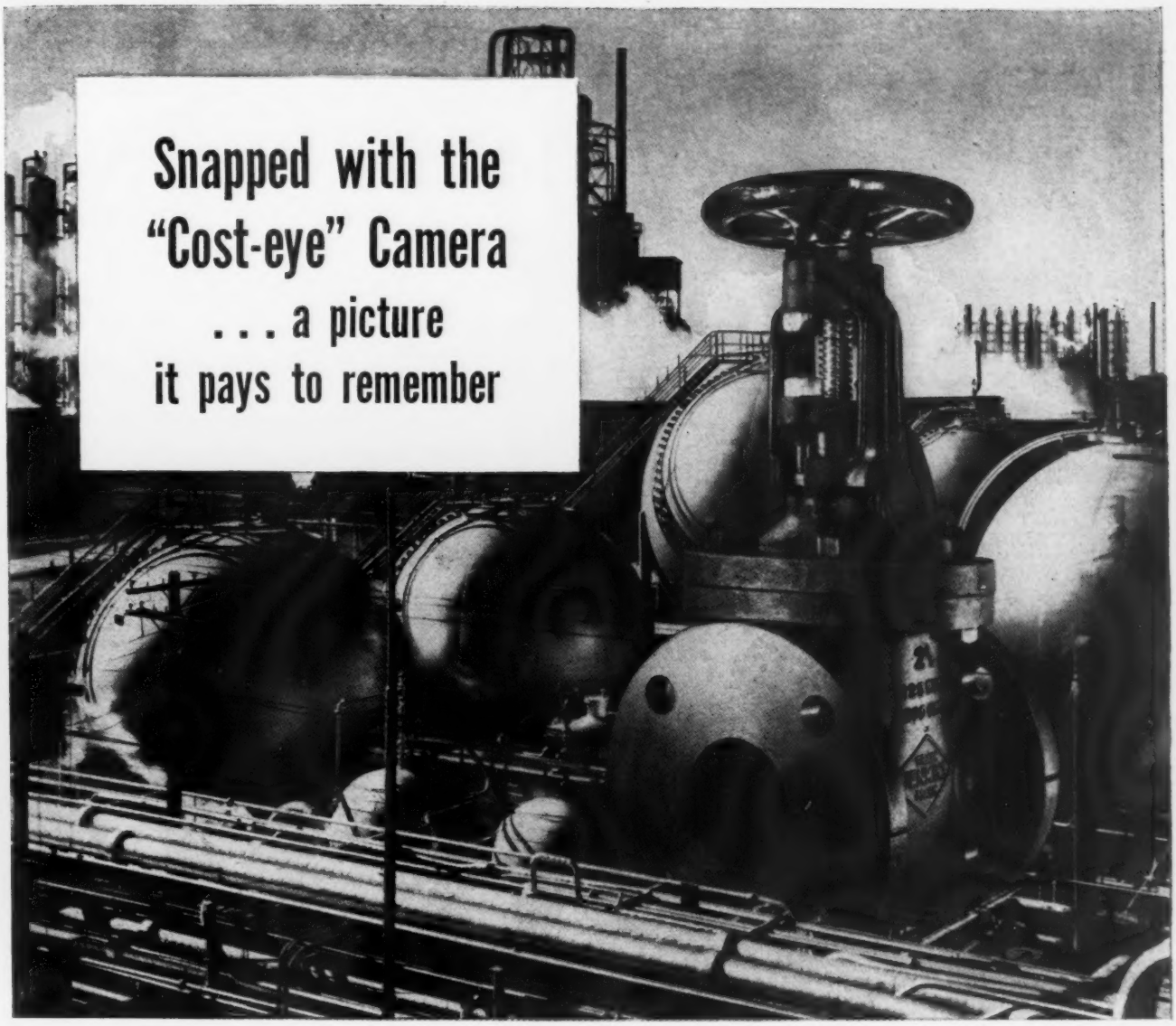
UNIVERSAL WINDING COMPANY

Providence, Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles; Montreal, Hamilton, Canada; Manchester, England; Paris, France; Basle, Switzerland

Agents in every principal textile center throughout the world

*®

ROTO-CONER* *the only machine with the rotary traverse*



IF A CAMERA could be constructed with an eye to costs, this is the picture you'd get of a synthetic rubber plant. By showing *all valves* as *one valve* it brings into proper perspective the valve investment in *any* plant, *any* large building where operation involves fluid control. Collectively, valves represent a major expenditure . . . yet too often, they are selected with "petty cash" consideration.

IT WILL PAY MANAGEMENT to keep this picture in mind. With wages and material costs the highest ever, valve maintenance costs must be watched as carefully as operating expense of larger plant units.

EXCESSIVE MAINTENANCE of one inferior valve is insignificant, but multiplied by thousands, it is a serious drain on operating budgets.

JENKINS BROS. helps you meet this problem two ways. First, by building extra endurance into Jenkins Valves, making them the longest-lasting, lowest-upkeep valves that money can buy. Second, with advice from Jenkins Engineers on any question of proper selection, installation, inspection or maintenance.

For all new installations, for all replacements, rely on Jenkins quality and engineering for lowest valve costs in the long run. *Sold through leading Industrial Distributors everywhere.*

•

Jenkins Bros., 80 White St., New York 13; Bridgeport, Conn.; Atlanta; Boston; Philadelphia; Chicago; San Francisco.
Jenkins Bros., Ltd., Montreal.

"PREVENT VALVE FAILURE" is a 28-page guide to valve economy, fully illustrated, with case histories of valve damage, and recommendations for its prevention by proper selection, installation, inspection, and maintenance. FREE on request. Write: JENKINS BROS., 80 White St., New York 13, N. Y.

LOOK FOR THIS JENKINS DIAMOND MARK

SINCE 1864

JENKINS VALVES

Types, Sizes, Pressures, Metals for Every Need

Together—never to part

. . . and demonstrating several of the advantages of Geon polyvinyl resins

HERE'S a collar-liner, different from any ever made before. It promises you a *really* non-wilt collar —non-wilt not only when the shirt is new but till the shirt is worn out. The liner is made of sheeting produced from Geon polyvinyl resins in a special formulation . . . and it literally fuses with the cloth to make the collar. Textile and lining actually become one . . . and every washing and every ironing tends to make the fusion even more lasting.

So now another product reaches the market, benefits the consumer and cuts manufacturing cost, thanks to the versatility of Geon polyvinyl resins. Geon has been performing service like this in so many fields: it has made upholstery resistant to grease, wear and weather . . . has added to the beauty and wear of women's handbags . . . made the bell-cords on buses stronger . . . beautified kitchens and made curtains and tablecloths easier to keep clean. Perhaps you, like this collar manufacturer, will get new ideas from knowing Geon's many *combinable* characteristics.

Geon polyvinyl resins can be worked in almost every way, too. They can be molded, cast into sheets, extruded or used in calendering or impregnating. The color range is almost limitless. We make no finished products from Geon, but we are glad to supply information and to give help on any special problem. Write to B. F. Goodrich Chemical Co., Dept. M-5, Rose Bldg., Cleveland 15, Ohio. In Canada: Kitchener, Ontario.

Press-Fuse collar lining by J. P. Frank & Company, Inc., New York, N. Y.

B. F. Goodrich Chemical Company

A DIVISION OF THE B. F. GOODRICH COMPANY

GEON polyvinyl materials • HYCAR American rubber • KRISTON thermosetting resins • GOOD-RITE chemicals

These Famous Names Weave their Luxurious Floor-Coverings on C&K Looms

In the pages of national consumer magazines, these honored trademarks sign the pledges of quality regularly published by these famous mills. And back of each of these stands another *invisible trademark* which tells a basic quality story: "Woven on C&K Looms." For all these fine rugs and carpetings are products of the amazing Axminster and other carpet looms built here in the Loom Works. Woven in fabulous constructions, and in prodigious widths, under the eyes of *modern* master weavers . . . the daily accomplishment of C&K Looms stands with the work of the *oldest* masters. But be it carpets, Glen plaids, gay ginghams . . . or whatever may be in *your* mind to produce . . . remember that "There's a C&K Loom for EVERY Woven Fabric." And this C&K Loom will weave your fabric in a quality, at a price, that will delight the eyes both of designers and of merchandisers.

Crompton & Knowles Loom Works

WORCESTER 1, MASSACHUSETTS, U. S. A.

PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA.
CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.

C&K — A Loom for Every Woven Fabric

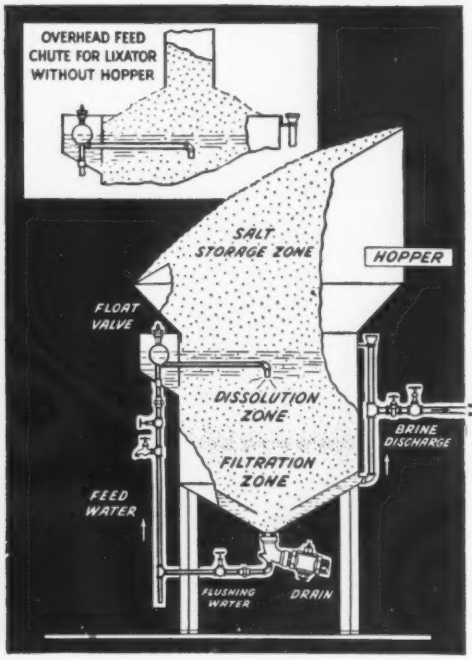
This "Invisible Trademark" Stands Back of the Famous Trademarks Shown above

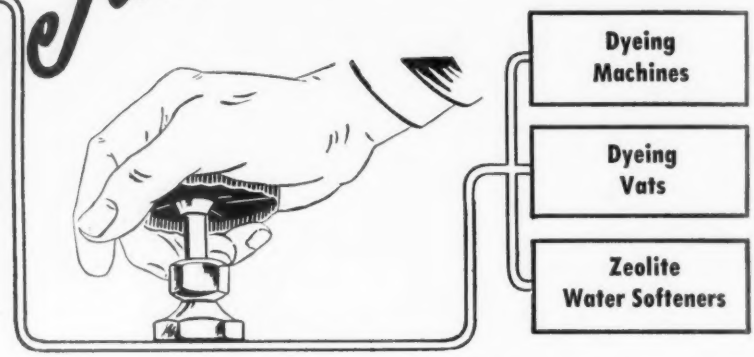
Why HAUL SALT

MEASURE SALT

STIR SALT?

just Turn it on!





HOW THE LIXATOR WORKS

In the dissolution zone—Flowing through a bed of Sterling Rock Salt which is continuously replenished by gravity feed, water dissolves salt to form 100% saturated brine. **In the filtration zone**—Through use of the self-filtration principle **originated by International,** the saturated brine is thoroughly filtered through a bed of undissolved rock salt. The rock salt itself filters the brine. Nothing else is needed.

WHAT THE LIXATOR PROVIDES

- ✓ **Chemical and bacterial purity to meet the most exacting standards for brine**
- ✓ **Unvarying salt content of 2.65 pounds per gallon of brine**
- ✓ **Crystal-clear brine**
- ✓ **Continuous supply of brine**
- ✓ **Automatic salt and water feed to Lixator**
- ✓ **Inexpensive, rapid distribution of brine to points of use by pump and piping**

YOU CAN ELIMINATE shoveling salt from storage, hauling salt around the plant, and laborious hand-stirring of salt and water . . . with the Lixate Process for Making Brine. This exclusive International development also stops waste of salt through spilling. It saves valuable time and labor, and assures accurate salt measurement.

For the Lixator *automatically* produces 100% saturated, free-flowing, crystal-clear brine which may be piped to as many points in your plant as you wish—any distance away—by gravity or pump.

You simply turn a valve for self-filtered brine that meets the most exacting chemical and bacterial standards for every brine need. Lixate brine is quickly and accurately diluted volumetrically to any desired strength.

Many Lixate users report savings of as high as 20%. Why not investigate the Lixate Process for your plant?

Completely flexible, a Lixate installation can be made to supply any needed brine requirement. No costly investment is required. The Lixator pays for itself out of savings. See how others have saved—write now for your copy of "The Lixate Process for Making Brine."

INTERNATIONAL SALT CO., INC., Dept. TW-10, Scranton, Pa.

*Name*_____

*Firm*_____

*Street*_____

*City*_____ *State*_____

The LIXATE *Process*
Reg. U. S. Pat. Off.
for making brine

INTERNATIONAL SALT COMPANY, INC.
Scranton, Pa.

A-P-T- *Tapered*

WARP SPINNING BOBBIN

Three men on a bobbin

Three men on a horse would be sure losers, but the "three men on a bobbin" were sure winners. They all had a hand in creating the A. P. T. Tapered Warp Spinning Bobbin. Since they represented industry-wide cooperation it is not strange that what they produced has always been standard equipment for new warp spinning frames. It's no gamble to put your money on the A. P. T. Bobbin. It's a winner every time.

Three major reasons for this out-in-front performance are as follows:

1. More and better spinning production due to the tapered construction of the bobbin. The larger diameter at the bottom puts less strain on the yarn at the start of the spin, and the tapered construction equalizes the tension over the full length of the traverse and permits larger packages of better production with fewer ends down.
2. More and better production in spooling and rewinding operations. The yarn comes off better from a tapered bobbin.
3. Finger tip seating. Spindle tip suspension and tough but resilient construction of bobbins permit positive seating with finger tip pressure. Thus the bobbins come off easily.

This bobbin is made of laminated, impregnated and hardened paper and has all the advantages of other A. P. T. Yarn Carriers. It will improve the quality of your production at less cost to you. A. P. T. Yarn Carriers are adaptable to the spinning, twisting or weaving of all types of fibres.

AMERICAN PAPER TUBE COMPANY

ESTABLISHED 1898

WOONSOCKET, R.I. GREENVILLE, S. C.

CANADIAN REPRESENTATIVE: HUGH WILLIAMS & CO., TORONTO, CANADA

"I SAY IT'S 5 GALLONS!
"I SAY IT'S 6 GALLONS!"
Barreled Sunlight
REG. U.S. PAT. OFF.
PAINT PRODUCTS

THEY'RE BOTH RIGHT...EACH 5-GALLON CAN OF BARRELED SUNLIGHT GIVES UP TO 6 GALLONS OF PAINT SPREAD

Who can blame even friends for differing over how to list Barreled Sunlight *on the inventory books* when it gives so much more *on the wall!* Barreled Sunlight's EXTRA spreading capacity (up to 20%) means *savings in paint* — its easier flow and superior hiding mean *savings in time* and *savings in labor.*

Due to Barreled Sunlight's amazing hiding qualities you can often obtain a "two-coat-look" with a one-coat application. Your painter, too, will like Barreled Sunlight's free-flowing and easy brushing advantages — and *your* enthusiastic comment of "Nice job, Joe" when the painting's finished and the proof is on the wall!

There's another PLUS. Due to the secret Rice Process, Barreled Sunlight is W-H-I-T-E-R when you put it on and STAYS W-H-I-T-E-R during its entire, long life! Barreled Sunlight-painted ceilings and walls give both natural light and artificial light a full chance to provide good illumination and step up your production.

In every way, Barreled Sunlight is today's biggest paint buy. Ask a Barreled Sunlight representative to come in and *show* you why! Write U. S. Gutta Percha Paint Co., 20-J Dudley St., Providence, R. I.

For a Short Story about Long Paint Life . . .

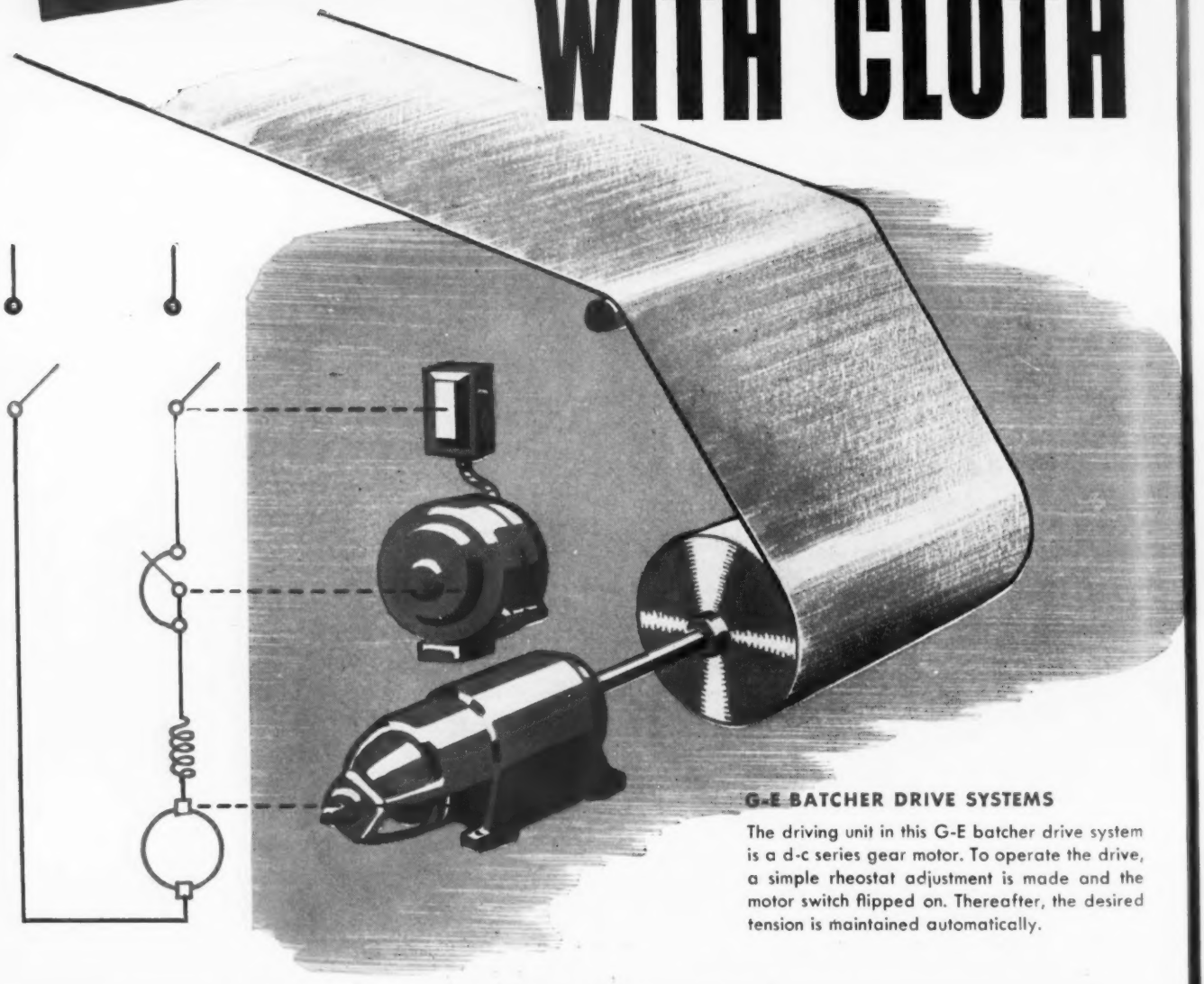
. . . call in the Barreled Sunlight man. He'll help you plan any paint job from one room to an entire plant in ever-popular whites that *stay* white or clear, clean, pleasing colors where they can be used advantageously.

In recommending paints that will last longer on every type of surface, he'll save you money from boiler room to board room!

BARRELED SUNLIGHT *Paints*

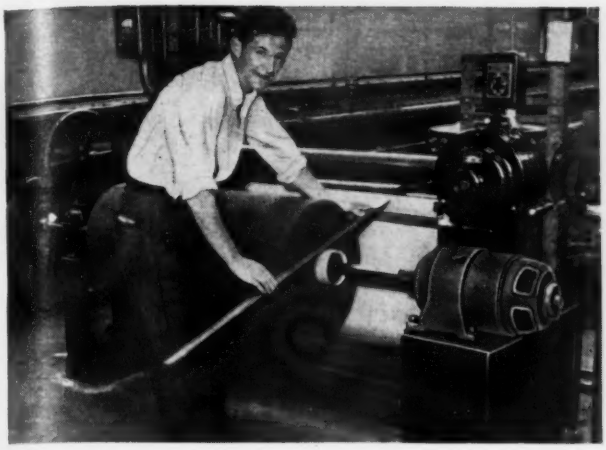
In Whitest White or clean, clear, pleasing colors, there's a BARRELED SUNLIGHT Paint for every job.

Smooth Batching WITH CLOTH

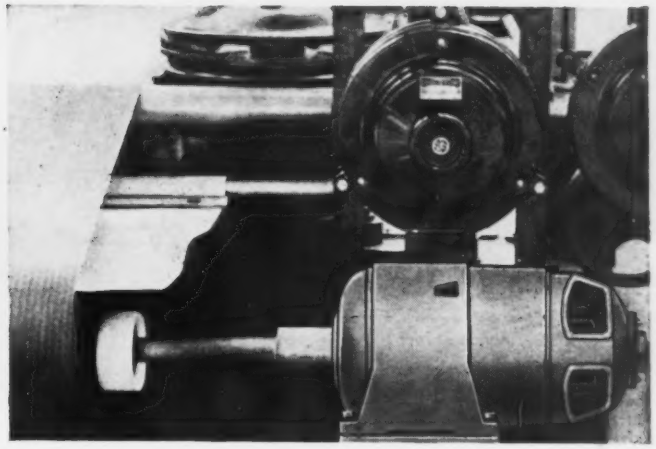


G-E BATCHER DRIVE SYSTEMS

The driving unit in this G-E batcher drive system is a d-c series gear motor. To operate the drive, a simple rheostat adjustment is made and the motor switch flipped on. Thereafter, the desired tension is maintained automatically.



This photograph dramatically illustrates how a G-E series motor batcher drive winds cloth into smooth, uniform rolls with even ends.



Simplicity is the outstanding advantage of a G-E series motor batcher drive. It consists of a d-c gear motor, rheostat, and motor control.

TENSION HELD CLOSELY!

A G-E series batcher drive needs only one simple adjustment to produce uniform cloth pull throughout a winding operation. Rolls are smooth and even, dyeing is better, and finishing costs are lower.

By holding cloth tension within narrow limits as it leaves a finishing machine, a G-E batcher drive prevents stretching of the warp—assures the operator of a uniform thread count over the roll length. Inner layers of cloth are not crushed and wrinkles and hard spots are eliminated. Thus, dyeing and other finishing operations are improved with less chance of shading and incomplete absorption.

SPOILAGE IS REDUCED!

Cloth rolls wound by a G-E batcher drive have smooth, even ends. Scuffing of the cloth during handling is avoided. The steady pull of the drive during acceleration and deceleration eliminates the "grabbing" motions of friction devices that often damage the cloth.

Little maintenance is required for a G-E batcher drive. There are no friction parts to wear out. Once a tension setting is made at the start of a wind, the drive automatically maintains this value without the aid of any mechanical adjusting device.

A DRIVE FOR ANY BATCHING CONDITION!

General Electric is prepared to furnish batcher drives to meet practically any set of operating conditions. The most widely used drive, a G-E series batcher motor, can operate over a diameter buildup range of 8 to 1 and a tension range of 4 to 1 at constant speed in yards per minute. Alternate drives are also available where greater accuracy of tension control, wide speed range, or "tensionless" winding are required. For a complete description of G-E batcher drives, write for Bulletin GEA-5012A. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

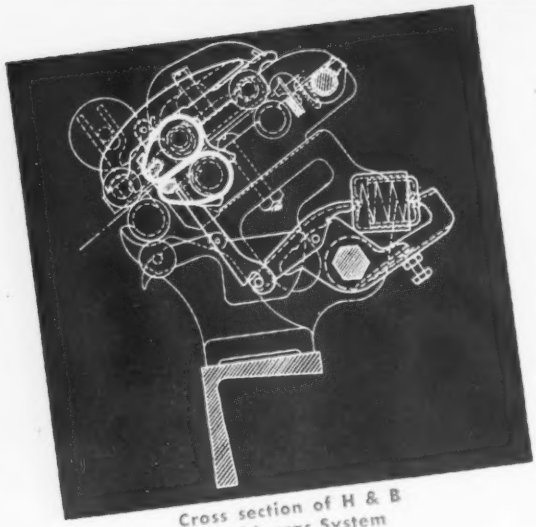
DRIVE SYSTEMS FOR TEXTILE MILLS

GENERAL ELECTRIC

661-29

H&B CASABLANCAS

MORE FOR YOUR INVESTMENT



Cross section of H & B Casablancas System

The H & B Casablancas High-Draft System consists essentially of two endless belts between which the roving is held and carried forward, a cradle which guides the belts and rests on the middle drive rolls, and the tensor which holds the belts from inside and standardizes the distance separating the front rollers from the delivery nip of the belts. The system can be applied to any type of ring frame for cotton spinning. The back and front rollers remain the same as in the ordinary system. A fluted bottom middle roller replaces the previous one and the top middle roller is changed to fit into the cradle. The lower belt is the propelling one, driven by the fluted roller, and it moves the upper belt. A streamlined saddle imposes pressure on the rollers, compressing both belts where they pass between the middle rollers.

The roving passes between back rollers and is gripped by belts which effect some break draft and carry the roving through, very close to the front rollers. The gentle, but firm, retention of the belts, as governed here by the tensor, permits only those fibers gripped by the front rollers to pass through, and not, as is so often the case with the usual systems, all fibres. This is the supreme achievement of high-drafting as exemplified by the two belt system: the steady, flexible control exerted by the belts and the short distance between delivery point of belts and front rollers give practically complete control.

Typical installation of H & B Casablancas High-Draft Spinning System on new H &B Spinning Frames

HERE'S WHY

H & B Casablancas High-Draft Spinning gives you all the advantages of any high draft spinning system including:—

1. A greatly increased output per dollar of machinery investment.
2. Greatly reduced operating costs because of smaller overhead on machinery and fewer operators required.

Special advantages are as follows:—

3. It will spin better yarn from a given grade of cotton than will a conventional system, or the same quality of varn from a poorer grade of stock.
4. It is comparatively simple and inexpensive to maintain.
5. Repair costs are relatively low.

SEND FOR THE H & B CASABLANCAS CATALOG

H&B AMERICAN

Builders of Modern

FACTORY, EXECUTIVE OFFICES AND EXPORT

High-Draft Spinning System

AUTOMATIC SPRING WEIGHTING

Perhaps the most outstanding feature of the H & B Casablancas High-Draft System is its Automatic Spring Weighting. After years of bar weights or cumbersome weight-levers and fulcrums, here is a simple, clean and efficient device which makes use of a spring to achieve automatic weighting. There is absolutely nothing on the roller beam,—no weights or weight wires, no lever screws, no adjusting,—and cleaning is greatly facilitated. The automatic levers of rustproof electroplated steel are held by a hexagon bar close beneath middle and back rollers. They cannot jam or become in any way inoperative. By lifting the streamlined saddle at the back, the pressure of the spring is relieved and the rolls are "unweighted". A push down at the front regains roller weighting. A tremendous advantage of this method, in addition to the clean roller beam, elimination of dirt and encumbrances, and consequent ease of piecing up, is the control of undue variations it affords. With the old method a slight change of leverage increased weight at stirrup in a ratio of 10 to 1, i.e., 10 lbs. at the lever was increased to 100 lbs. at the stirrup. With the H & B Casablancas Automatic Weighting method any variations in spring tension, and these are much less likely to be accidentally incurred, are divided by 2.72 at the stirrup, i.e., the same 10 lbs. at this lever is 3.7 lbs. on the stirrup, and any increase is proportionately reduced.

Attention is directed to the small holes in the spring lever and the spring holder. When the weighting system is new, these two holes should line up, indicating that the system is in correct operating position. When parts become worn, as for instance the saddle, the wear will be indicated by the fact that the two holes no longer line up. This serves as a warning that parts should be replaced, although the spring lever is still effective when the holes are as much as 1/8" out of line.

This weighting method also has the decided advantage of a saving in cost due to the vast difference in the total weight of an ordinary machine and one equipped with H & B Casablancas Automatic Spring Weighting Levers. The weight reduction amounts to about ONE TON for one ring frame of 400 spindles.

Saddle, stirrup, lever and spring in running position
2 Holes lined up
Spring up
Saddle, stirrup, lever and spring in release position
Spring down

Automatic Spring Weighting Method

H & B SPINNING FRAME

We recommend that the H & B Casablancas High-Draft Spinning System be installed on new H & B Spinning Frames, when practicable, although it can be used on any standard make of frame. The excellent appearance of this frame, its sturdy construction and high quality workmanship make it particularly suitable for the Casablancas system.

Section of H & B Spinning Frame

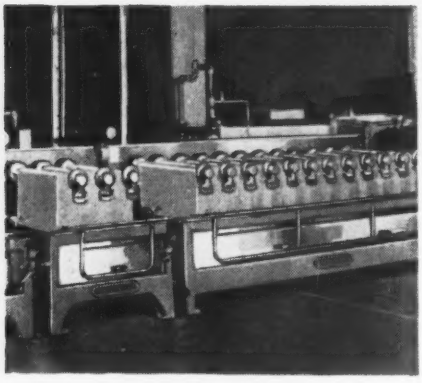
MACHINE CO.

Textile Machinery

DIVISION PAWTUCKET, RHODE ISLAND, U. S. A.

BRANCH OFFICES
ATLANTA, GA.
815 CITIZENS AND SOUTHERN NATIONAL BANK BUILDING
CHARLOTTE, N. C.
1201 JOHNSTON BUILDING

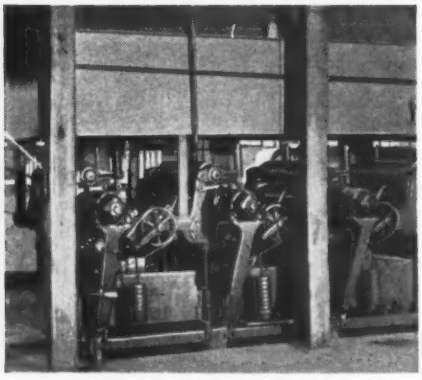
HOW THESE OPERATIONS CAN GIVE YOU THESE RESULTS



COTTON BOIL-OFF

Clean, Absorbent Cottons!

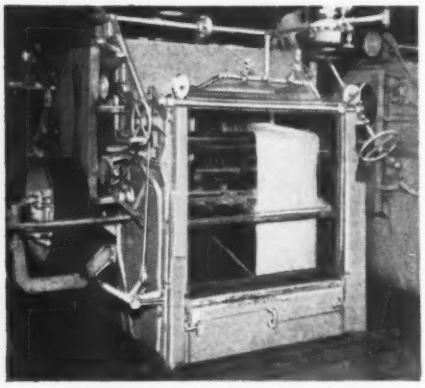
It is usually unnecessary to kier boil cotton yarn. Often a less severe open boil-off may be used. In the latter case, ARMOUR'S ENERGETIC has proved most successful. ENERGETIC is a liquid, nonionic type of synthetic detergent with excellent washing properties. ENERGETIC is unaffected by hard water, easily rinsed and effective in very low concentrations. And ENERGETIC provides remarkable suspending power for removing natural cotton impurities.



SOAPING OFF PRINTS

Clear, Bright Prints!

After printing and aging, cotton prints must be washed to remove the stiffening effect of the starches and gums used in the printing operation. This job normally calls for high temperatures and maximum detergent action. FLINT, a tallow soap especially formulated for high temperature work, is most effective in this operation. It removes the relatively large amount of gums present and also gives the goods a uniform feel or handle. FLINT thus assures clearer, cleaner, brighter, sharper prints—and more attractive fabrics!



FULLING AND SCOURING

Soft, Resilient Worsteds!

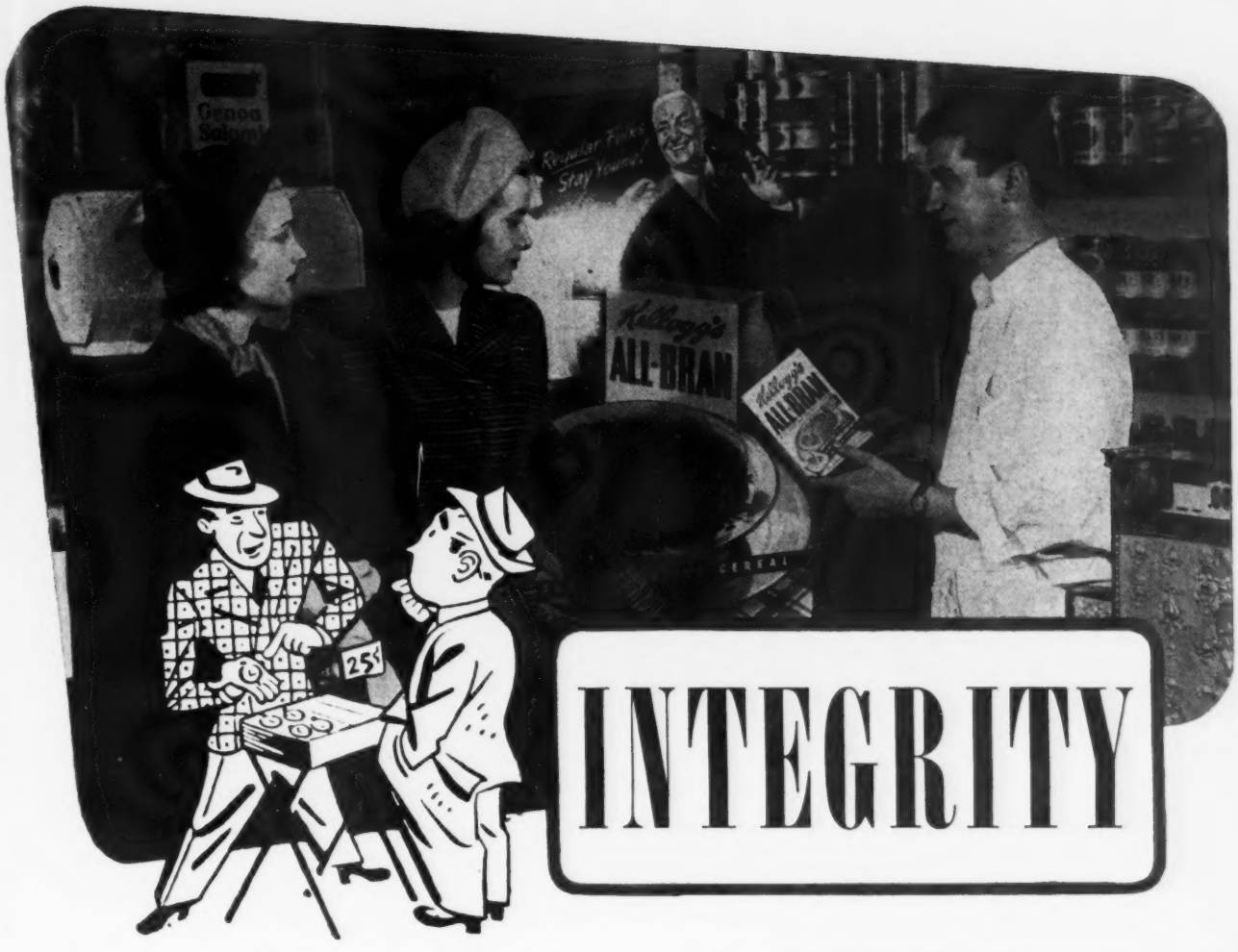
In fulling worsteds, you need a light fulling and scouring action. That's one of the reasons why Armour's CERTIFIED is the best soap for this job. CERTIFIED provides body for the fulling operation and also for suspending and carrying away the oils applied in the spinning process. CERTIFIED's easy solubility and good rinsability guarantee clean, resilient goods.

Remember, There are Armour Soaps and Synthetic Detergents to Solve All Your Textile Problems.

ARMOUR and Company

Industrial Soap Division

1355 WEST 31ST STREET • CHICAGO 9, ILLINOIS

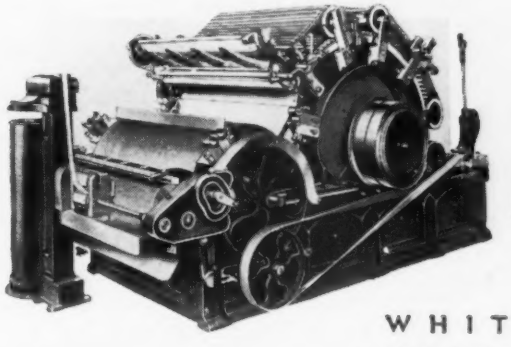


INTEGRITY

You pass the "Pitchman" by, for you know that in spite of his slick sidewalk sales talk, the gadgets he sells are of questionable value. You patronize your established stores . . . buy their products . . . because you *know* they stand behind the merchandise they sell.

When the purchase of textile machinery for your mill is under consideration — generally a capital investment of major proportions — you naturally look, for your source of supply, to a manufacturer whose reputation for integrity and reliability is well established.

For well over a century, Whitin has manufactured high-performance machinery — maintaining a large stock of genuine Whitin replacement parts to guarantee to each and every purchaser of Whitin equipment that the machines which perform so well today, will continue to operate productively, year after year, until obsolescence.



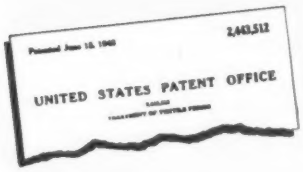
When you buy textile equipment — buy the best . . . buy WHITIN!

Whitin
MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS
CHARLOTTE, N. C. • ATLANTA, GA.

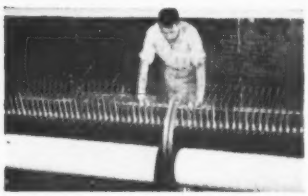
FOR YOUR INFORMATION

MILLS GET 10%-30% MORE YARN STRENGTH WITH SYTON IN WOOLEN, WORSTED SPINNING



SYTON: INVENTED BY MONSANTO

Monsanto research *originated* Syton. Monsanto technicians first recognized Syton's possibilities for better, faster spinning at lower costs. Now, the application of silica sols to any textile fiber as an aid to textile spinning is covered by U. S. Patent 2,443,512 issued to Monsanto.



Mulespinning, Lowell Textile Institute

PROVED IN MILL TRIALS

Monsanto was first in the "pilot plant" development of Syton for textile spinning. Here at Lowell Textile Institute, details of Syton application were successfully worked out on a small scale. Then a long series of mill trials was run. Now, Monsanto technicians are ready to use these lessons, and hundreds of others learned in mills now using Syton, to provide better spinning in *your plant*.

PROVED AGAIN IN SALES TO MILLS

Success in mill trials is confirmed by sales. Thirty-three more mills in one month means a rate of better than one a day! That's the latest sales report on this Monsanto pioneered product which is quickly becoming standard in the textile industry. More and more mill customers are the measure of Syton's practical success. It's delivering improved spinning in other plants now . . . just as it can in yours.

Practical results in more and more mills prove that Monsanto's Syton delivers from 10% to 30% added tensile strength. Syton's silica particles, evenly applied at the gill box or picker, control the rate that the fibers slide by one another. This controlled lubrication during drawing and spinning accounts for these typical mill reports:

- **"A 20% to 30% increase in tensile strength with Syton."**
- **"With Syton, we are obtaining a 29% increase in breaking strength."**
- **"Tensile strength of Sytonized yarns shows an increase of 25%."**
- **"A general production increase was obtained in all operations. Picking, carding, spinning, dressing and weaving have improved through use of Syton."**
- **"We are getting a consistent 15% increase in strength with a corresponding increase in production due to higher speeds."**
- **"Syton is providing very good results for us. The worsted yarn is 17% stronger, spins better, makes a better fabric and the finished fabric is 6% stronger."**

SYTON delivers these advantages:

Syton's advantages stem from increased yarn strength in woolens *and* worsteds. Check them ... and *get* them in your yarns with Syton.

FASTER PRODUCTION:

Because of increased yarn strength, the amount of twist can be reduced and production thereby speeded.

LOFTIER YARNS:

Less twist means loftier yarns, with tensile strength equal or better than the strength of untreated yarns of higher twist.

FINER YARNS WITH ALL GRADES:

Higher counts—closer to limit spin—for all grades of stock can be attained with Syton-treated yarns.

FEWER ENDS DOWN:

Reductions in ends down vary from 25% to 50% depending on the grade of wool.

BETTER SPINNING EFFICIENCY

Syton produces more uniform yarn with less beard and thin spots, reduced fly waste, and better drafting.

For information on Syton, address 1 on the coupon.

Resloom, Syton, Sted: Reg. U. S. Pat. Off.

RESLOOM for wrinkle-resistant cotton

Another wrinkle-resistant Resloom-treated cotton on the market. This time it's the new Reeveweave, all-cotton fabric suiting by the famous Reeves Bros., Inc. With lasting wrinkle-resistance provided by Resloom, Reeves Brothers are joining the front-runners for next year's summer suiting sales competition. A feature, perhaps, to put up *your* sleeve when you're thinking of future sales.

RESLOOM for washable wool

And we *mean* washable. Bloch-Heller starts another season with Resloom-treated sports shirts of North Star's Nocturne fabric. And understandably so. They sold tens of thousands last season and their returns were less than .0004%—less than one in every 2,222! And Bloch-Heller's label read simply: "Treated with Resloom for washability. Wash or dry clean."

For information address 2 on the coupon.

Foamless STED Cleans Better

Textile cleaning *improved* because foam is eliminated! That's the result with Sted, Monsanto's non-sudsing detergent which succeeds at the toughest textile cleaning jobs, including wool scouring.

Here's why foam is a hindrance rather than a help in textile cleaning:

1. **Foam cushions mechanical action, delays results.**
2. **Foam often overflows on to mill floors, making the cleaning operation more difficult for personnel.**
3. **Foam is more difficult to rinse as it tends to redeposit scum it has carried off.**

The reasons *against* foam are the reasons *for* Sted. Maximum mechanical action, no overflows, ease in rinsing.

Sted is a scientifically built, non-ionic detergent and, as such, it rinses just as well in cool water and hard water. This means mill savings: In fuel to heat water for cleaning, in the amount of detergent necessary, and in the amount of water necessary. Multiply these savings ... plus the gains in cleaning time, and you have the reasons for Sted's success.

For information, address 3 on the coupon.

MONSANTO
CHEMICALS—PLASTICS

SERVING INDUSTRY ... WHICH SERVES MANKIND

MONSANTO CHEMICAL COMPANY, TEXTILE CHEMICALS DEPARTMENT,
Desk No. TWT-10, 140 Federal Street, Boston 10, Mass.

Please send me information as checked below:

☐ *No. 1;* ☐ *No. 2;* ☐ *No. 3*

Name _____ Title _____

Company _____

Address _____

City _____ State _____

KILL STATIC with Complete Safety

STATIC in textile mill routine is a costly nuisance. To maintain trouble-free and smooth speed production, static must be eliminated continuously and safely. Since 1904, thousands of mills the world over have been eliminating static with CHAPMAN equipment — efficiently, with complete safety, and at low cost

Obviously, there can be no "package" solution for static problems. CHAPMAN Static Eliminators are of several types, each of which is specifically designed to do its one job, and to do that job superlatively well — to KILL STATIC — whether at a single point or across any width of web.

THE CHAPMAN STATIC ELIMINATOR

INSTANTANEOUS ACTION — TROUBLE-FREE

Textile mills everywhere report to us that CHAPMAN Static Eliminators are speeding their production by eliminating static at the point where static causes trouble; on the condensers of wool carding sets; over doffer combs; on Peralta machines, nappers, dryers; in the drawing process of making worsted type yarns on the American or modified cotton system; on cotton type drawing frames handling cotton or wool and the various synthetics, either alone or in blended combinations; in high speed warping and slashing, and many other operations.

Proven Safety & Efficiency

CHAPMAN Static Eliminators are absolutely safe. Over 40 years of *actual, continual use under varying conditions* have proven this. No shielding or any precaution is needed to protect operators. Neither operators, State or other governments object to its use. CHAPMAN Static Eliminators are silent and instantaneous in action; reduce the need for excessive humidity; require a minimum of maintenance. Operating cost is so low as to be negligible.

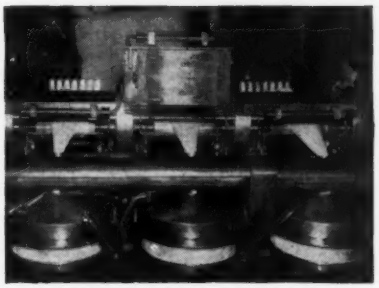
CHAPMAN STATIC ELIMINATORS ARE TESTED AND APPROVED BY THE UNDERWRITERS' LABORATORIES.

Chapman Engineering Service is available to you without obligation. Write us, and ask for your free copy of the CHAPMAN Handbook, Bulletin No. 66.

CHAPMAN ELECTRIC NEUTRALIZER COMPANY

ESTABLISHED 1904

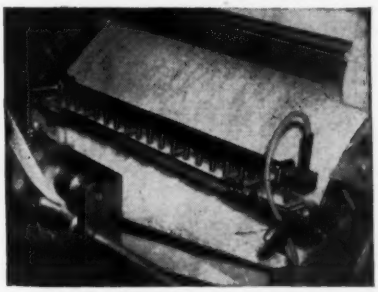
24-60 FORE ST., PORTLAND 6, MAINE



Three slivers in a line of drawing — equipped with CHAPMAN Neutralizers. One clearer cover is raised.

Two lines of drawing, running blends containing wool, acetate rayon, etc. Equipped with CHAPMAN Neutralizers, insuring full production.

Line of Tape Condensers in a woolen mill, all equipped with CHAPMAN Neutralizers of the individual type.



A close-up view of a cotton card fitted with a CHAPMAN Neutralizer.

Color Lends Warmth to Beauty

For Winter Sportswear
as Colorful as Confetti
Specify

National Aniline Dyes

NATIONAL ANILINE DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, NEW YORK

BOSTON • PROVIDENCE • PHILADELPHIA • CHICAGO • SAN FRANCISCO • PORTLAND ORE
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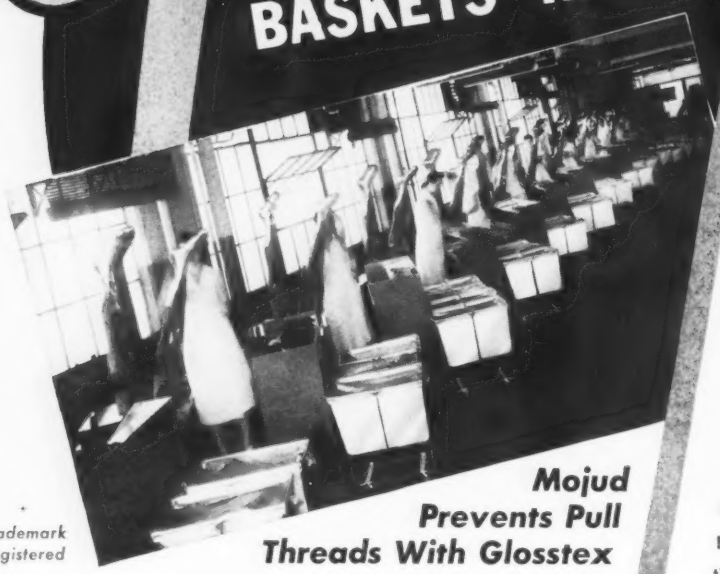
SEE IT! FEEL IT! TEST IT!

Demonstration Convinces Textile Industries That Glosstex Cuts Handling Damage And Costs

Smooth as silk

Glosstex

BASKETS · HAMPERS · TRUCKS



Trademark Registered

Mojud Prevents Pull Threads With Glosstex

Recent photo taken at the Mojud Hosiery Co., Long Island City, N. Y. factory, illustrates wide use of Dandux Glosstex Trucks. Mojud, sold on the snag-less, clean, long wearing qualities of this new product, is rapidly converting to Glosstex trucks, table covers and special Glosstex handling equipment.

SEND FOR USEFUL DEMONSTRATOR SAMPLE

No obligation involved.

- **SMOOTH GLOSSY SURFACE**
  By far the smoothest canvas ever produced for any DANDUX product. Ideal for handling fabrics.
- **OIL AND GREASE PROOF**
  An important added factor in eliminating damage to materials.
- **EASILY WASHABLE**
  Doesn't absorb dirt or water. Saves time and trouble. Just wipe off with damp rag.
- **COSTS LESS THAN FIBRE OR WOOD**
  Doesn't chip or splinter. Not susceptible to sharp edged holes. More resilient. Longer lasting.
- **MORE DURABLE**
  Exclusive impregnation process renders Glosstex 2½ times more resistant to wear than canvas. Won't absorb dyes. Does not deteriorate in heat up to 300° F. Does not shrink.
- **OFFICIALLY TESTED**
  Careful preparation, experimentation and field tests conducted by Daniels' own laboratories were further amplified by independent testing companies. (Copy of tests sent on request).

Please send Glosstex Demonstrator Sample, under no obligation to me.

Co._____

Address_____

Requested by_____

CANVAS DANDUX PRODUCTS

Manufacturers of Everything of Canvas

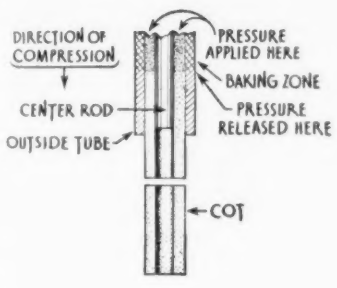
C. R. DANIELS, INC.

DANIELS, MARYLAND

Offices & Factories in Principal Cities

STOP EYEBROWING

EXCLUSIVE EXTRUSION PROCESS PRODUCES SEAMLESS CORK COTS



Armstrong's Extruded Cork Cots have no structural weakness to cause premature breakdown. Each cot is uniform in density from inside to outside, from end to end. Each compresses evenly, spins stronger yarn.

ACCOTEX IS A REGISTERED TRADE-MARK.

THE HIGHLY FRICTIONAL SURFACE of Armstrong's Cork Cots eliminates eyebrows. It also carries clearer waste well back onto the clearer boards. There's no danger of waste's dropping off or being nipped into the work. Thus clearer picking is minimized, and the number of slubs is reduced. Moreover, cork reduces clearer waste as much as fifty per cent.

The extra "grip" of Armstrong's Cork Cots also gives you more uniform drafting and helps produce top-quality yarn. Their resilience and uniformity mean fewer ends down per thousand spindle hours, so your operators do less piecing up. These cots recover quickly from most laps and hard ends. They won't flow under roll weighting. And since they are extruded, there are no hard or soft spots to grip the yarn unevenly.

Get all the facts on clean-running Armstrong's Cork Cots from your Armstrong representative. Or write today to Armstrong Cork Company, Textile Products Department, 8310 Arch Street, Lancaster, Pennsylvania.

Better running work . . . more poundage

ARMSTRONG'S CORK COTS

ACCOTEX COTS • ACCOTEX APRONS

PERKINS AUTOMATIC BIN PILERS

PATENTED

You cannot afford to pile by hand

B. F. PERKINS & SON, INC.

ENGINEERS AND MANUFACTURERS

HOLYOKE • • • MASSACHUSETTS

Which Machine Can You Anchor Without Floor Damage?

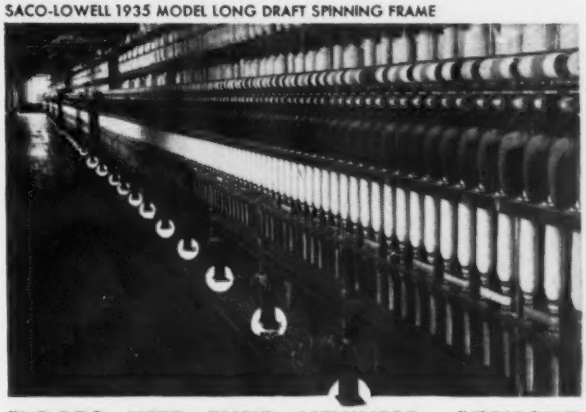
The Answer: **ALL OF THEM!**

When you mount them on UNISORB—as shown—all the machines you use can be anchored the modern way . . . No Bolts . . . No Lag Screws . . . No Destructive Floor Drilling.

DRAPER E MODEL COTTON LOOM

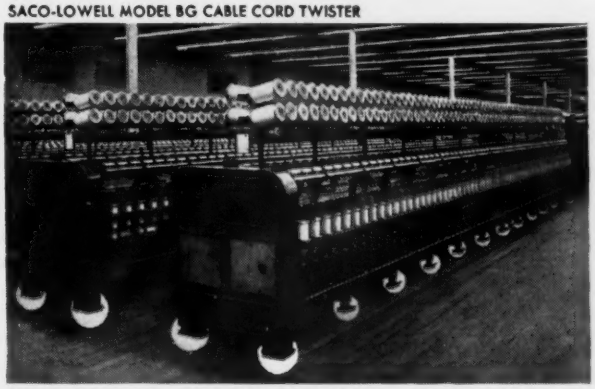
TRAPS VIBRATION AND NOISE — By absorbing from 60% to 85% of transmitted machine noise and vibration, UNISORB guards floors, buildings and the machinery itself . . . helps to provide quieter surroundings for your workers, to their advantage and *yours.*

SACO-LOWELL 1935 MODEL LONG DRAFT SPINNING FRAME



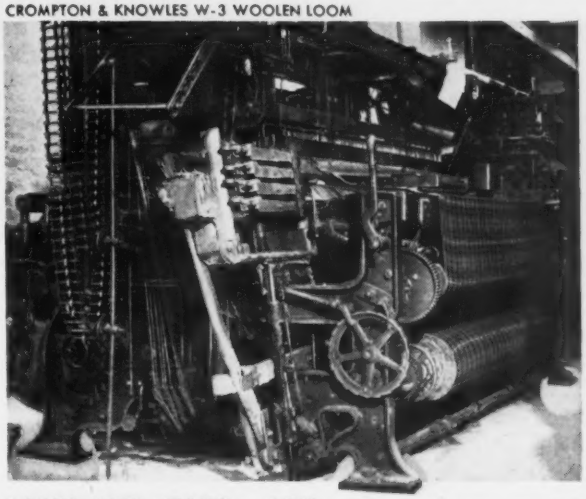
FLOORS KEEP THEIR NEWNESS — UNISORB-Mounting works effectively with every type of flooring, and banishes the old-fashioned hole-drilling that goes with bolt-and-lag-screw anchoring. A special cement quickly, easily binds the UNISORB pads to the machine feet and the floor. Permanent set prevents creeping.

SACO-LOWELL MODEL BG CABLE CORD TWISTER

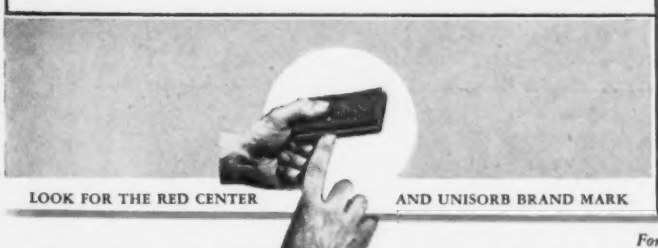


UNISORB IS READY-CUT FOR IMMEDIATE INSTALLATION — Send us the type of machine, how many to be UNISORB-Mounted, who made it, serial number, model number. We do the rest. Delivery is immediate, and your UNISORB pads are ready for installation on delivery.
Today, write for a UNISORB sample and full details.

CROMPTON & KNOWLES W-3 WOOLEN LOOM



LASTS FOR YEARS — Mills, everywhere, report UNISORB-Mounting jobs 6, 7, 8 years old — and older — that have required no replacement or maintenance . . . and are still as secure and efficient as the day they were installed!



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The simplest in operation and the Highest Production loom of its type IN THE WORLD

The ingenious split shot method of inserting foundation fabric weft in the Platt loom gives an added advantage to the Axminster type of weaving by reducing costs of manufacture and greatly increasing loom production.

Standard Widths	Recommended Speeds	Standard Widths	Recommended Speeds
Wide Looms:		Narrow Looms: (continued)	
10/4	19 rows of tufts per min.	27 inch	28 rows of tufts per min.
12/4	18 rows of tufts per min.	32 inch	27 rows of tufts per min.
14/4	17 rows of tufts per min.	36 inch	26 rows of tufts per min.
16/4	16 rows of tufts per min.	45 inch	25 rows of tufts per min.
Narrow Looms:		48 inch	24 rows of tufts per min.
18 inch	30 rows of tufts per min	54 inch	23 rows of tufts per min.
22 inch	29 rows of tufts per min.		

These speeds are approximately 33⅓% greater than those used for double needle double insertion looms.

We shall be happy to supply further information on request.

Platt Bros. (SALES) LIMITED.

OLDHAM, ENGLAND.

TELEPHONE MAIN (OLDHAM) 3884

TELEGRAMS TEXTILMAK OLDHAM.

MARKETING THE TEXTILE MACHINERY MADE IN THE WORKS OF PLATT BROTHERS & CO. LTD. HOWARD & BULLOUGH LTD.

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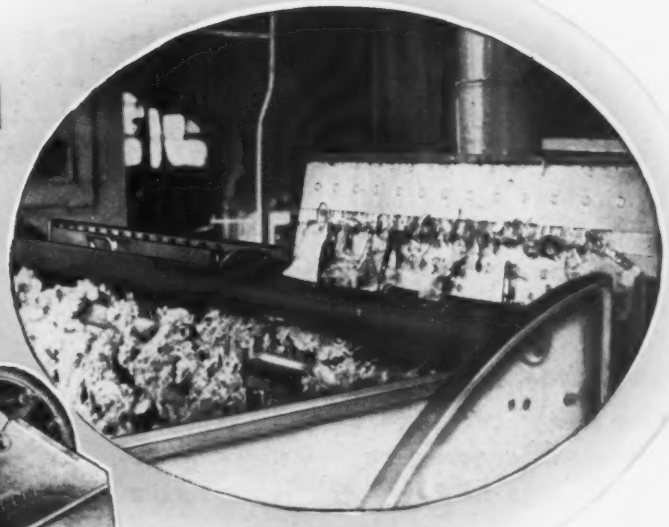
Stop TRAMP IRON Damage



Spiked Apron Magnet

Magnetic Hump

with Eriez NON-ELECTRIC *Permanent* MAGNETS

THESE three installations are typical in showing how hundreds of Eriez users in the textile industry have eliminated tramp iron from their processing lines . . . how they have thus bought positive insurance against fires and damage to processing machinery. Your choice of Eriez Non-Electric Permanent Magnetic Protection is profitable too! First cost is last cost . . . no rectifiers, transformers, or other electrical gadgets needed. Operating and maintenance costs are cut to zero! Whatever your separation needs, there's an Eriez to fit the job. Eriez Non-Electric Permanent Magnetic Protection is engineered to fit your requirements efficiently and economically . . . Let us send our nearest Eriez Engineer to consult with you.

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Please send bulletin No. 104 A and the following: TW-10

Data on Eriez Magnets for:

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For Complete Textile Magnetic Protection . . . See Eriez First

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The *TUFFER* Tension Regulator and *TUFFER* Motor Drive

SAVES TIME . . .

Using the Tuffer Tension Regulator and Tuffer Motor Drive, one man and a helper can clothe the most difficult roll in an exceptionally short time.

SAVES LABOR . . .

Men who would assist if the roll was clothed in the ordinary way are free to work elsewhere in the mill when the Tuffer Tension Regulator and Tuffer Motor Drive are used.

SAVES MONEY . . .

Use of the Tuffer Regulator and Tuffer Drive gives a definite saving. Mills are reporting to us that savings run into real money each year.

DOES A BETTER JOB . . .

Your card clothing is uniformly and properly applied by using the Tuffer Tension Regulator and Tuffer Motor Drive. The tension is smooth and accurate—whether used on cylinders or doffers, the Tuffer Regulator does a faster, better job!

For complete information, get in touch with our nearest representative or write to any Howard Bros. plant or branch office.

TUFFER MOTOR DRIVE

HOWARD BROS. MFG. CO. WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga. and Gastonia, N. C.

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TUFFER CARD CLOTHING — ***IMPROVES PRODUCTION ALL ALONG THE LINE***

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Factory-trained mechanics, genuine parts, experience and know-how are ready for you *when you need them* at your Hyster distributor lift truck service station.

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A. R. Williams Machy. Western, Ltd.
CHATTANOOGA, TENN.—Embry Brothers, Inc.
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CINCINNATI, O.—Oral T. Carter & Associates
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DALLAS, TEX.—C. H. Collier Company
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DETROIT, MICH.—Bentley & Hyde
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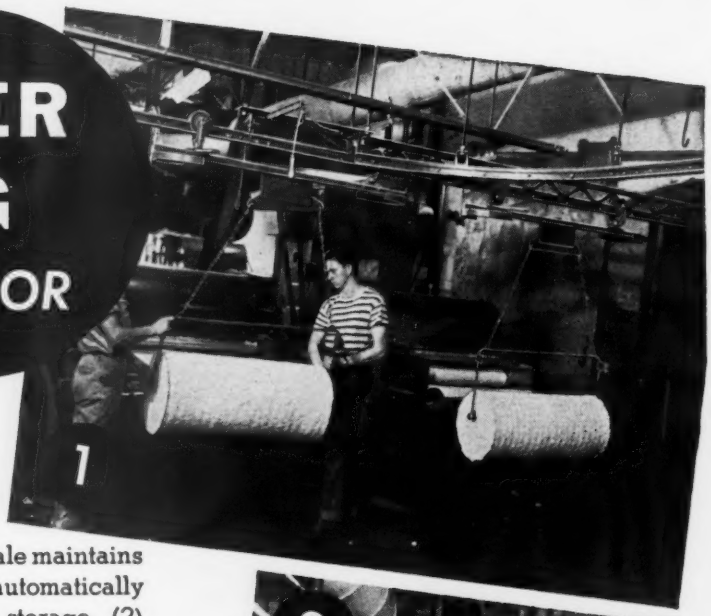
HYSTER

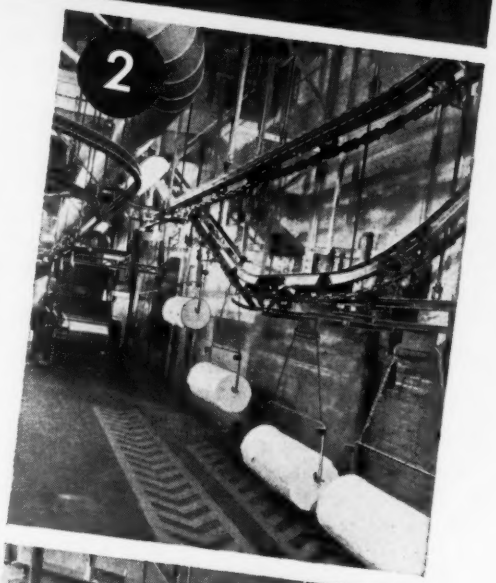
UP and OVER HANDLING
from FLOOR to FLOOR

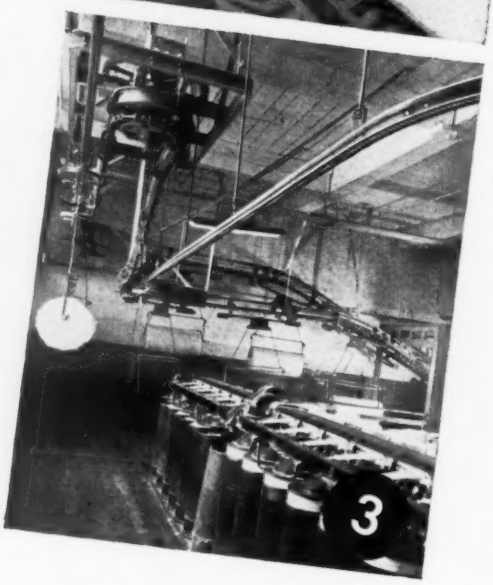


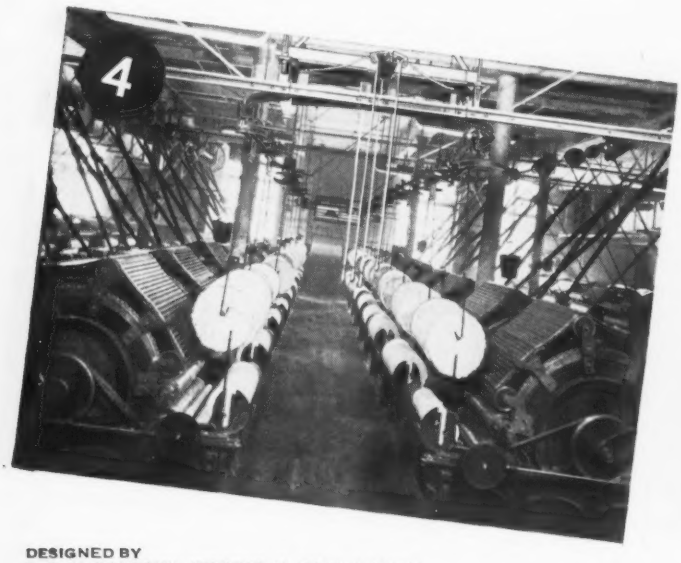
These pictures tell an unusual story of the versatility of American MonoRail "Up and Over" Handling. (1) Cotton laps are loaded on carrier at pickers. Carriers roll by gravity to scale where weight is checked. Automatic reject at scale maintains tolerance within one-half pound. Good laps feed automatically to conveyor. Rejects roll by gravity to rework storage. (2) Carriers automatically engage with booster system for transfer to card room on floor above. (3) Loaded carriers roll by gravity to storage track. Empty lap rods return for transfer to pickers on the floor below. (4) Operator pulls off nine carriers at a time to creel a row of cards.

The only manual handlng in this entire system is loading of laps at picker. Automatic handling eliminates torn laps caused by manual handling. Electric eye automatically shuts off entire system in case of overload.

American MonoRail engineers can show you how it is better, quicker and more economical to handle your material with "Up and Over" American MonoRail Handling equipment.





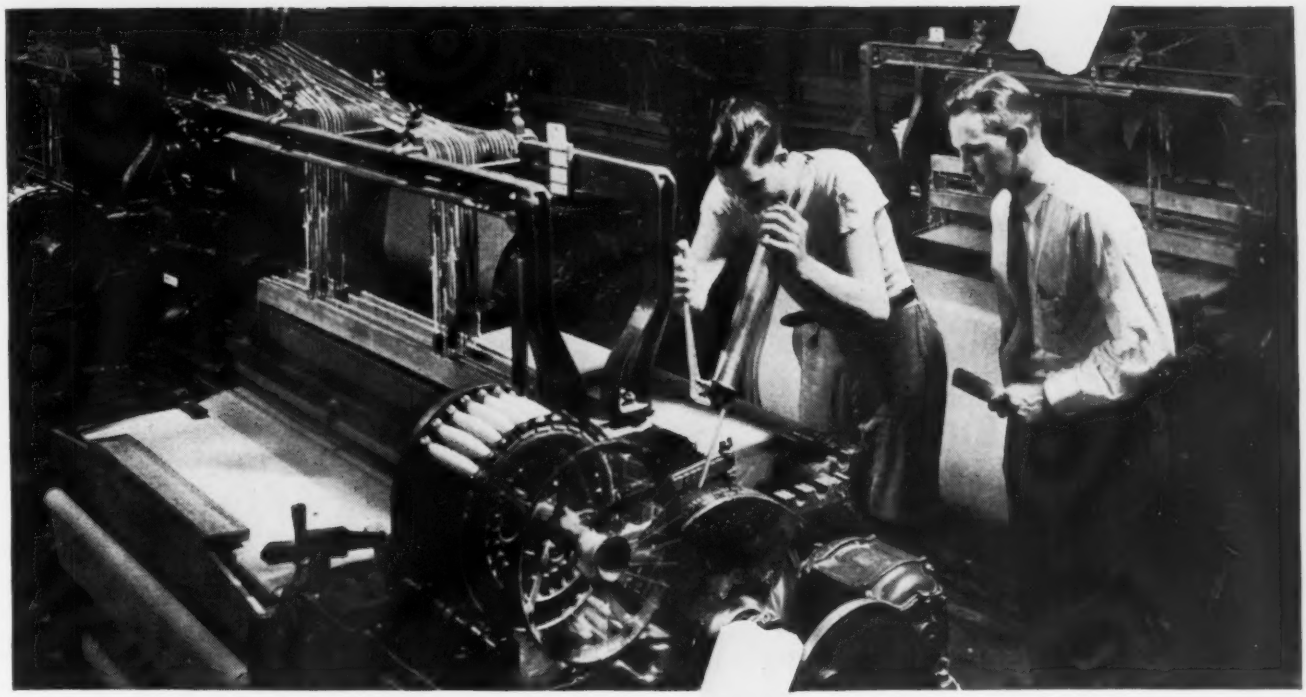


DESIGNED BY
P. O. M. COMPANY, INDUSTRIAL CONSULTANTS
WERNER TEXTILE CONSULTANTS
NEW YORK 17, NEW YORK

THE AMERICAN MONORAIL COMPANY

13108 ATHENS AVENUE **CLEVELAND 7, OHIO**

let a Gulf Lubrication Engineer work with you, for you—



- to improve loom performance,
- cut maintenance and power costs,
- reduce wear and downtime,
- eliminate spotting and oily cuts

The Gulf Lubrication Engineer "in the picture" (right) helped set up a systematic lubrication schedule for these looms.

SCORES OF LEADING MILLS find the wide experience and broad practical knowledge of Gulf Lubrication Engineers invaluable—a source of real down-to-earth solutions for their maintenance and lubrication problems.

One of these trained specialists can help you eliminate guesswork in lubrication—assist you to get the full advantage of lubricants as engineering materials. For he is thoroughly familiar with all factors which affect lubrication efficiency—and he makes available a complete line of quality oils and greases designed for service under widely varying operating conditions, no matter how severe.

When he makes a recommendation of the right Gulf lubricant and the most suitable method of application, you can be sure of satisfactory results.

If you are not already doing so, get the benefits of this helpful engineering service. Call in a Gulf Lubrication Engineer today and ask him to give you specific cases of mills, similar to yours, who have reduced power and maintenance costs through improved lubrication. Write, wire, or phone your nearest Gulf office.

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GULF INDUSTRIAL LUBRICATION

BODY SIZE

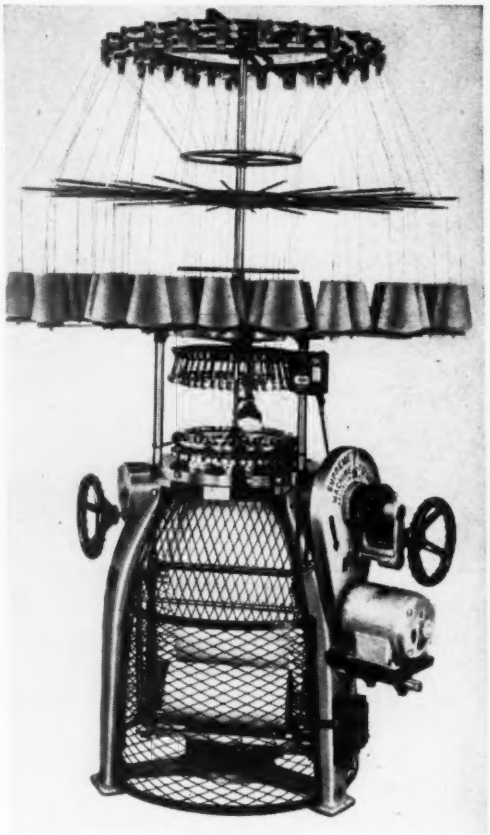
UNDERWEAR AND POLO SHIRTS

With

Supreme

Body Size

Model MJ



Supreme Body Size Model MJ eliminates slitting and sewing of side seams and matching of stripes on polo shirts and underwear. The planned Body Size comes right off the machine at the amazing rate of 100 yards an hour.

Let us help you select the proper Body Size Model MJ to knit the garment sizes in demand at your mill.

Dia.	Feeds
9"	28
10"	32
11"	34
12"	38
13"	40
14"	44
15"	48
16"	50
17"	54
18"	56

SUPREME

KNITTING MACHINE CO., Inc.

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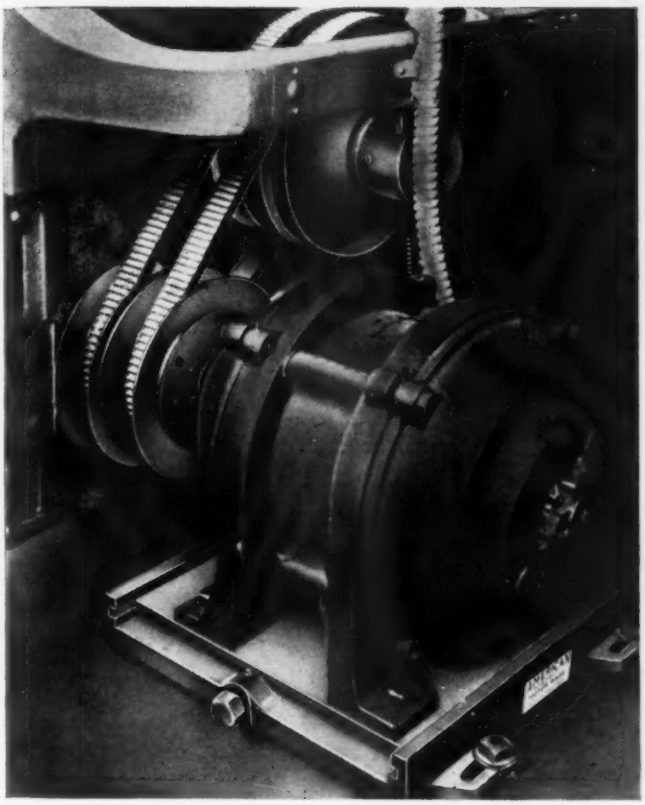
SAVED! 25 PRODUCTION MINUTES

. . . every time a speed change is made!



On how many of your textile spinning jobs are quick speed changes vitally necessary for top quality and high-speed production? Now, virtually "tailor-made" to fit those jobs, the new *American* Wide-Range Adjustable-Diameter Drive gives you 6 cost-reducing advantages:

- 1. Adjusting mechanism permits quick, easy shifting of all flanges at once. Single lock screw prevents flange movement while sheave operates.
- 2. Smooth, trouble-free operation is assured because each individual flange, as well as the entire assembly, is dynamically balanced.
- 3. Freezing of moving parts is eliminated and noise and vibration are reduced because the sheave flanges are mounted in rubber bonded to the sheave hub.
- 4. *Permanently* easy to adjust—the adjusting mechanism consists of stainless steel screws connected with specially constructed gears—enclosed in a dust-proof housing.
- 5. Shorter overall length saves up to 1¾" in space.
- 6. Low initial cost.

For higher standards of production and quality, find out more about the new *American* Wide-Range Adjustable-Diameter Drive, now. Your note starts complete information on its way. Just ask for the *American* Wide-Range Adjustable-Diameter Drives Bulletin.

JOB: Spinning Cotton Yarn on a Long Draft Spinning Frame.

PROBLEM: Frequent speed changes were necessary to maintain production. With fixed V-Belt previously used, 30-60 minutes were consumed changing pulleys.

SOLUTION: Looking for a way to cut machine downtime, the shop supervisor installed an *American* Wide-Range Adjustable-Diameter Drive.

RESULTS: Speed changes are now made in 2-5 minutes. Production is up because downtime is appreciably reduced—quality is improved because desired speeds are maintained.

The American Pulley Company

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Represents 50 years of experience of the Horn Laboratories and the endorsement of nationally known manufacturers of floors and floor coverings who through their associations have tried, tested and approved Horn Products.
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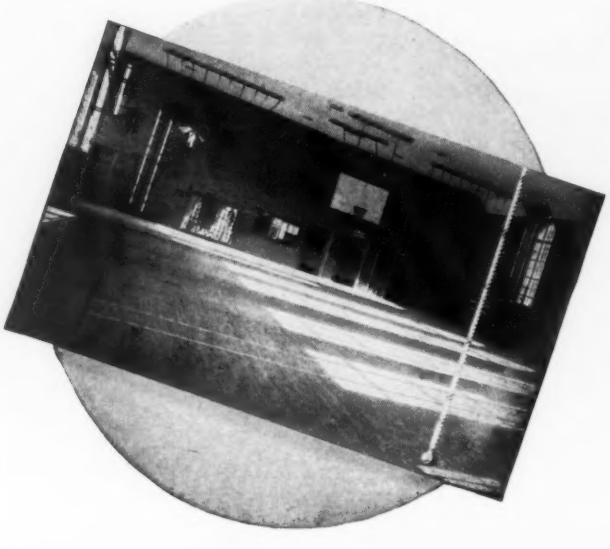

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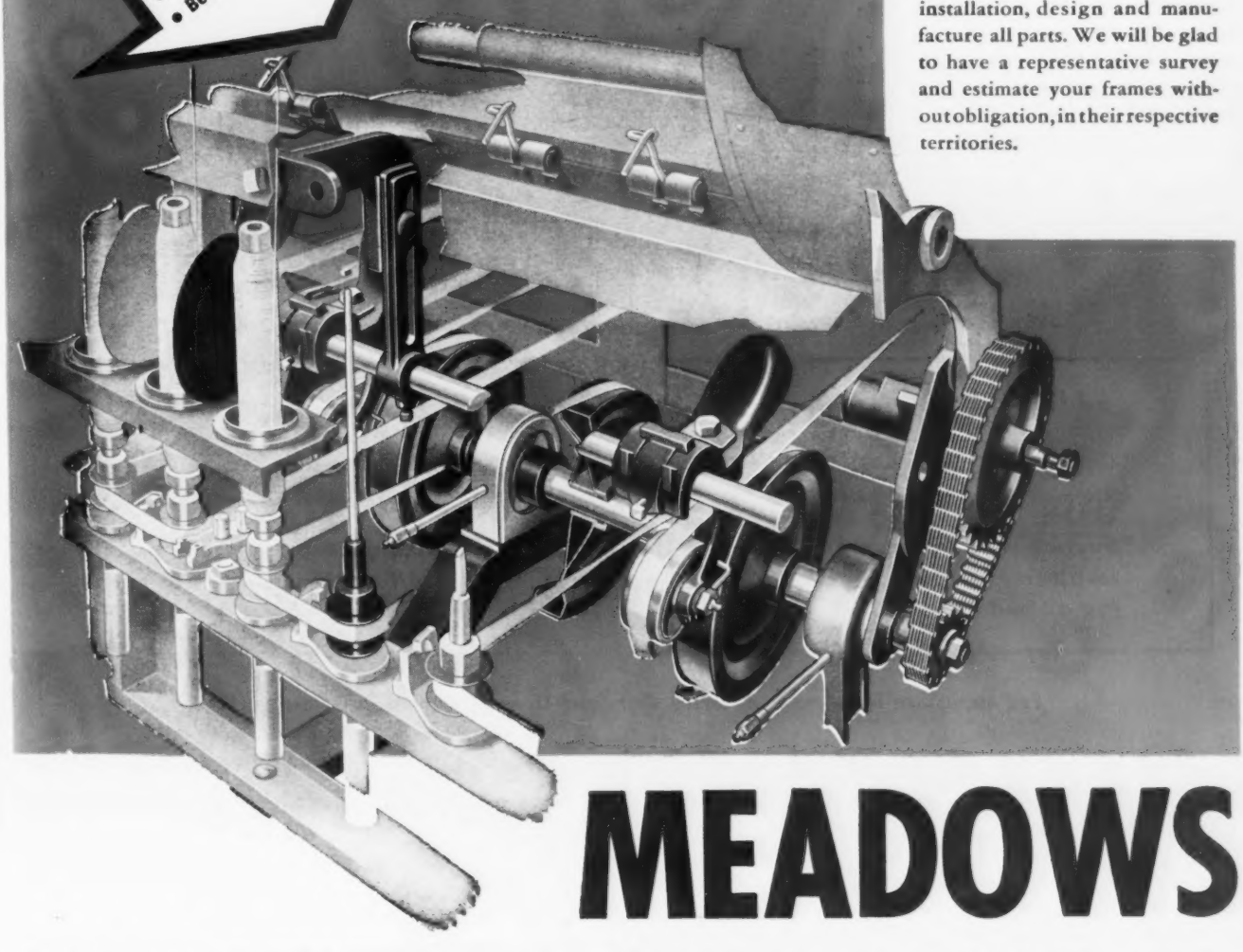
MILLS have found that the *quickest,* most *economical* way to increase production on old-model band-driven or tape-driven frames is with Meadows Conversions...Consisting of Ball Bearing Tape Tension Pulleys, light weight solid aluminum Separators, silent Chain Drive, Individual Drive Pulley, and ground and polished Shafting mounted on heavy-duty ball bearings—these conversions assure *low power* consumption, no *tapes off* due to choked or sticky pulleys, less wear on yarn, increased *output* and *no more cylinder trouble.*

- Fewer Ends Down!
- No More Heads to Jerk Out!
- No More Cylinder Trouble
- Less Vibration!
- Uniform Speed and Twist!
- Better Package-More Yarn!

We engineer and service each installation, design and manufacture all parts. We will be glad to have a representative survey and estimate your frames without obligation, in their respective territories.



MEADOWS

MANUFACTURING COMPANY • ATLANTA, GA.

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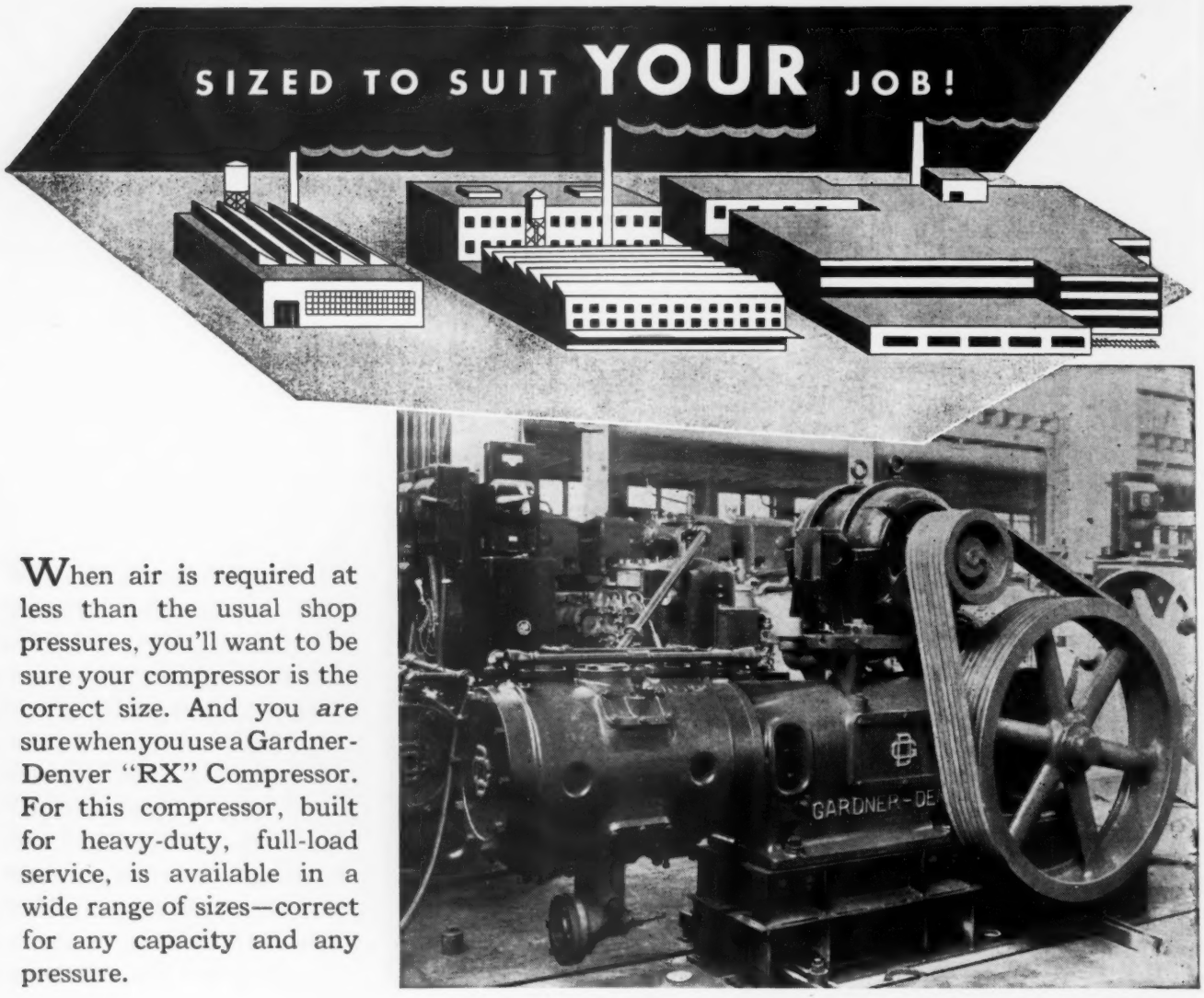

When air is required at less than the usual shop pressures, you'll want to be sure your compressor is the correct size. And you *are* sure when you use a Gardner-Denver "RX" Compressor. For this compressor, built for heavy-duty, full-load service, is available in a wide range of sizes—correct for any capacity and any pressure.

Gardner-Denver "RX" Single Stage Horizontal Compressor—available in capacities from 89 to 1292 cubic feet displacement per minute.

Additional features which make the "RX" a favorite in so many industries:

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- **Suction valve unloaders on all inlet valves result in lowest power consumption during unloaded period.*
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For complete information, write Gardner-Denver Company, Quincy, Illinois

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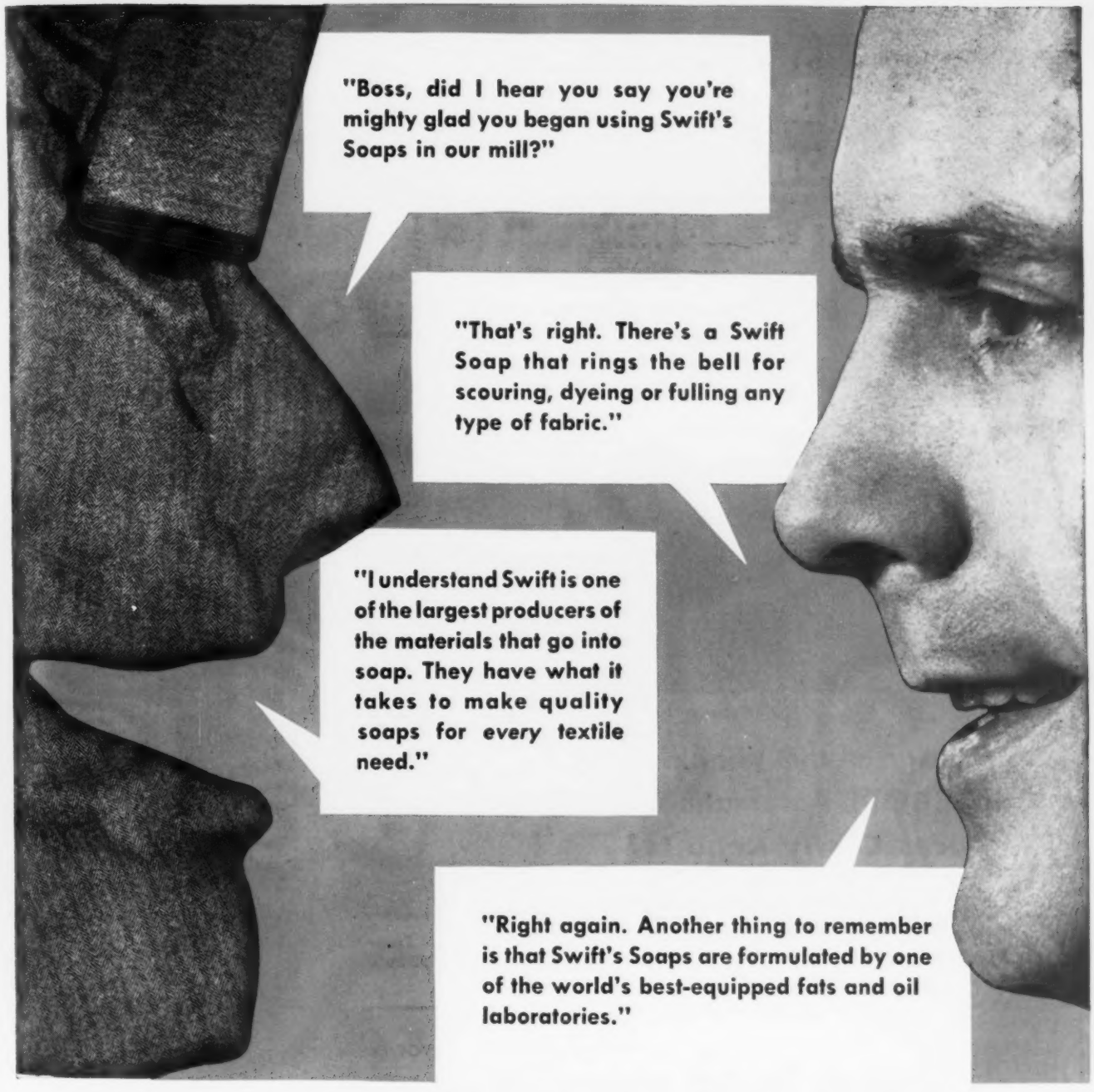
"Boss, did I hear you say you're mighty glad you began using Swift's Soaps in our mill?"
"That's right. There's a Swift Soap that rings the bell for scouring, dyeing or fulling any type of fabric."
"I understand Swift is one of the largest producers of the materials that go into soap. They have what it takes to make quality soaps for *every* textile need."
"Right again. Another thing to remember is that Swift's Soaps are formulated by one of the world's best-equipped fats and oil laboratories."

There's a Swift Distribution Point near you

Swift's Soaps
for every textile use

Vertex Flakes
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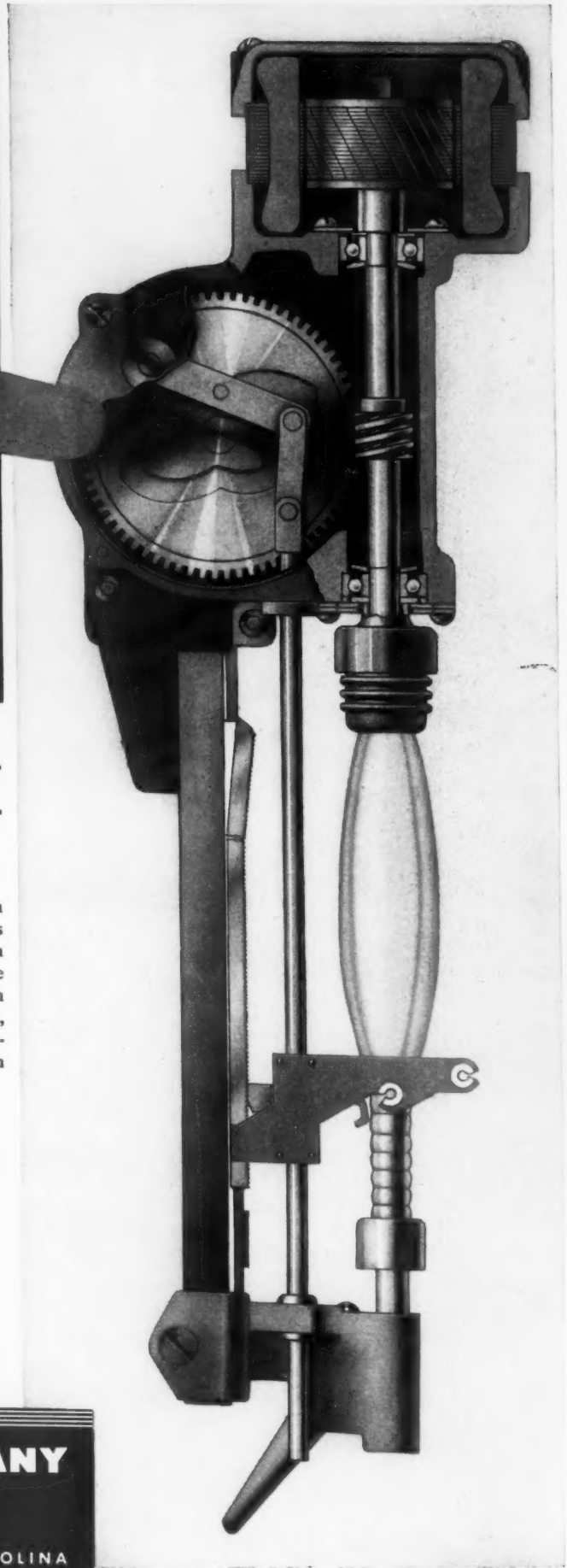
White Ribbon Flakes
Wool Flakes

In barrels and bags

SWIFT & COMPANY
Soap Department, Chicago 9, Ill.

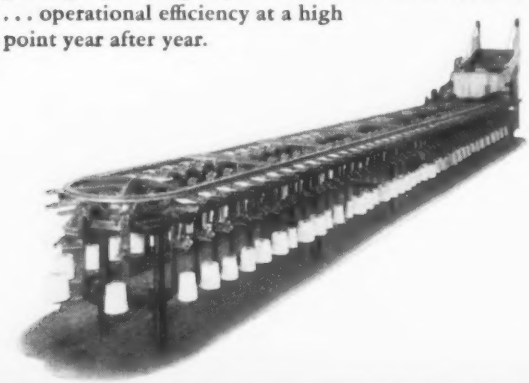
ABBOTT Automatic QUILLERS

Only 4 Moving Parts
DRIVE THE SPINDLE AND TAKE THE TRAVERSE MOTION OUT TO TRAVERSE GUIDE



Simplicity of the Winding Unit on ABBOTT Automatic Quiller *Reduces Costly Repairs!*

The mill that wants to make a better fabric will switch to Abbott Quillers to wind their filling bobbins. This Traveling Spindle Unit has a double throw cam which winds overlapping layers at both the tip and base of the conical section of the bobbin, which produces a bobbin of superior weaving characteristics. Simplicity of design, with less moving parts and the elimination of hard-to-get-at gadgets keep repair and maintenance costs down . . . operational efficiency at a high point year after year.



ABBOTT MACHINE COMPANY
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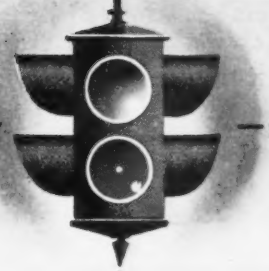
SARAN

BY NATIONAL

the fiber for upholstery  ***—that welcomes heavy traffic***

Upholstery woven of saran is the natural choice for public seating applications—where good looks must be combined with superior durability and low maintenance costs. Saran monofilaments are *tough*—resist dirt, stains, abrasion and hard wear! They're *beautiful*—decorator colors are molded into the fiber! They're *care-free*—retain their brilliant newness with a minimum of care! And as fine as .005″, they're clean, lint-free—a pleasure to work and to weave! Versatile saran monofilaments offer limitless inspiration to the textile field.

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ODENTON, MARYLAND

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SARAN

SARAN BY NATIONAL *denotes monofilament, rattan and tape manufactured by The National Plastic Products Company from Dow's saran, and supplied to mills, weavers and other fabricators.*

L. F. Dommerich & Company

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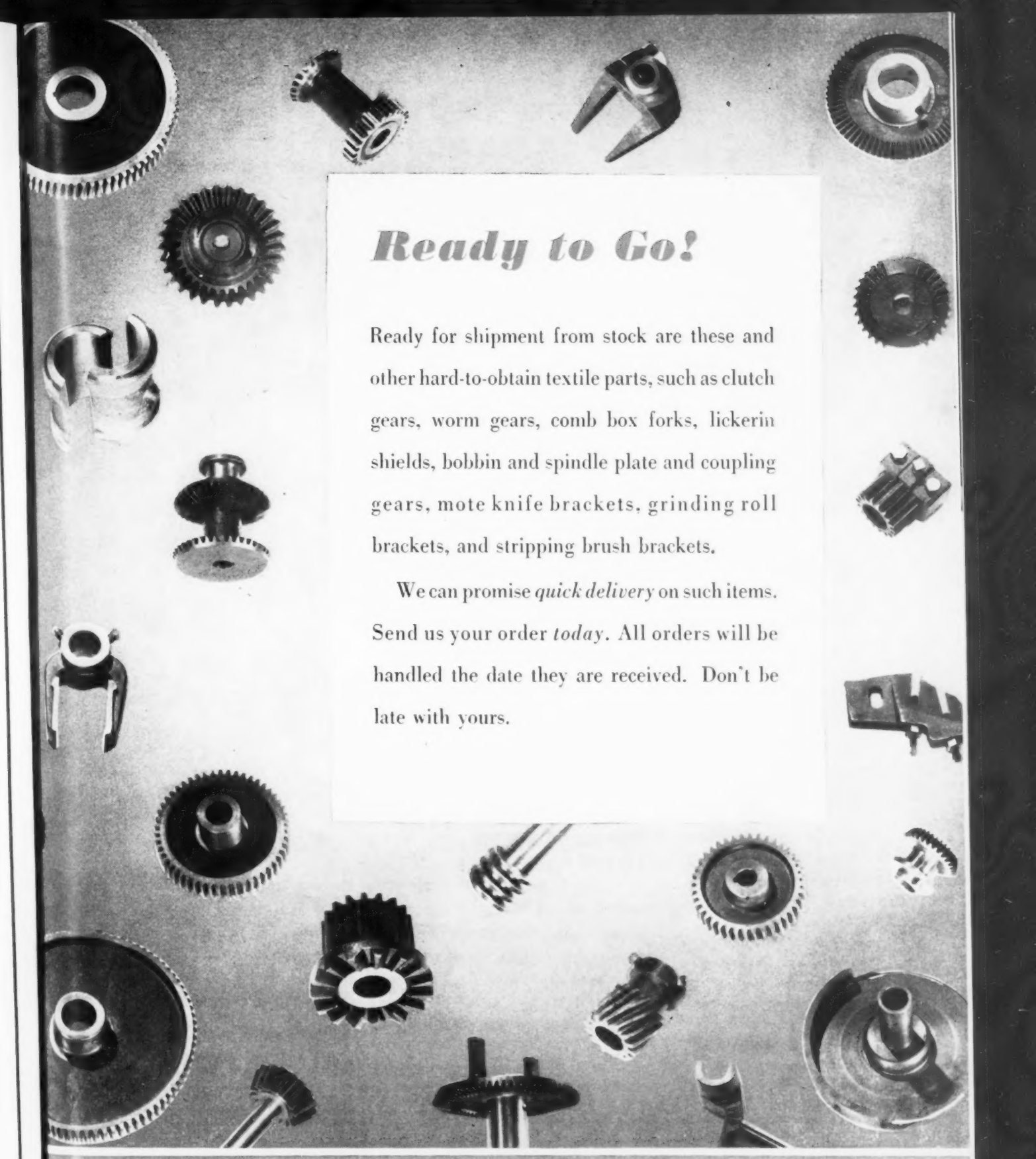
●

ESTABLISHED 1840



Ready to Go!

Ready for shipment from stock are these and other hard-to-obtain textile parts, such as clutch gears, worm gears, comb box forks, lickerin shields, bobbin and spindle plate and coupling gears, mote knife brackets, grinding roll brackets, and stripping brush brackets.

We can promise *quick delivery* on such items. Send us your order *today*. All orders will be handled the date they are received. Don't be late with yours.

Southern States SS **Equipment Corp.**

HOME OFFICE AND FACTORY — HAMPTON, GEORGIA

HENDERSON FOUNDRY & MACHINE COMPANY DIVISION

Largest Manufacturer of Cast-Tooth and Cut-Tooth Gears in the South

The Fleet Line DOUBLE TUB SOAPING MACHINE

SAVES MONEY!

REDUCES SOAP AND LABOR COSTS!

THE FLEET LINE

Cloth Washers, Batch and Continuous • Fulling Mills • Piece Dye Kettles • Dye Becks • Rope Soapers • Cloth Carbonizing Ranges • Soaping Machines • Derby Continuous Dry Cleaners • Tenter Dryers • Stock Dye Kettles • Rolls • Multi-lap Continuous Process Machines • Top Dyeing Machines • Crushers • Squeeze Roll Extractors • Bleaching Equipment • Yarn Steamers • Reels • Parts

In mill after mill this Fleet Line Soaping Machine is helping to pay for itself in lower soap and labor charges. Soap savings up to 27%! Labor cut in half!

Designed to effect exceptionally uniform soaping of woolens and worsteds before fulling, it can also be used as a unit in soap distributing systems. A one-man operation (instead of the usual two), it is capable of speeds as high as 40 yards per minute even on heavy weight fabrics.

To save on soaping . . . to step up the efficiency of your entire wet finishing operation . . . Fleet Line is the answer. Let us make recommendations on your wet finishing requirements.

RIGGS and LOMBARD Inc.

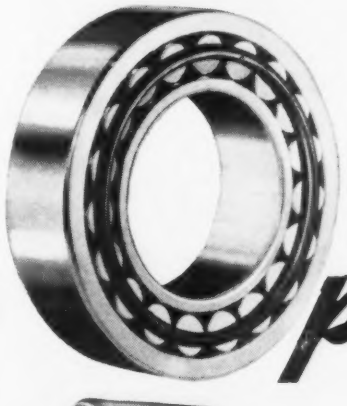
FOOT OF SUFFOLK STREET, LOWELL, MASS.

DOMESTIC AGENTS: Paul A. Merriam, 1491 Broad Street, Providence, R. I. • Harold C. Osler, 6312 Sherwood Road, Philadelphia, Pa. • Charles H. Dunker, 701 7th Street, Coronado, California • Albert R. Breen, 80 E. Jackson Blvd., Chicago 4, Illinois

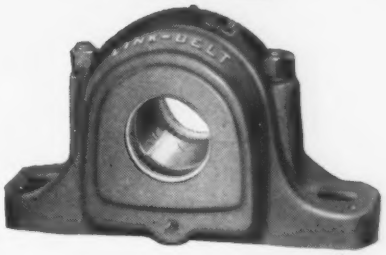
EXPORT AGENTS: Latin America — Meyer, Lyra & Co., 228-229 Fulton St., N. Y., N. Y. • Balkan States, Egypt, Palestine, India — Arlind Corp., 509 Madison Ave., N. Y., N. Y. • South Africa — Noel P. Hunt, Pty., Ltd., Embassy House, 326 West St., Durban, South Africa • China — G. R. Coleman & Co., Inc., 50 Church St., N. Y., N. Y.

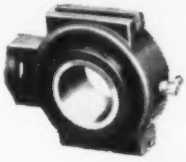
The Fleet Line
OF FINISHING EQUIPMENT

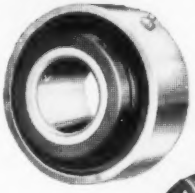
WITH LINK-BELT BALL AND ROLLER BEARINGS *It's*

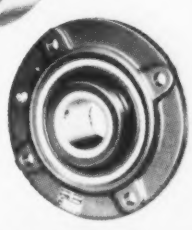


Operation "OK"







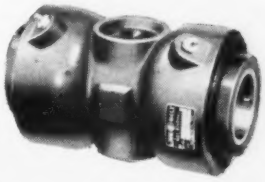


Users everywhere are putting their big "O.K." on the operation of Link-Belt Ball and Roller Bearings. And they report smoother operation of machines equipped with these dependable, precision-built bearing units.

There's a complete line—mounted and unmounted—from which to choose the bearing to fit your job.

Our experienced engineers will be glad to help solve your bearing problems. Once you install Link-Belt Ball and Roller Bearings, you too will enthusiastically say, "Operation O.K.".

11.149



SEND FOR CATALOGS

LINK-BELT COMPANY

519 N. Holmes Ave.
Indianapolis 6, Indiana
Stocks in Principal Trading Areas

LINK-BELT BALL AND ROLLER BEARINGS

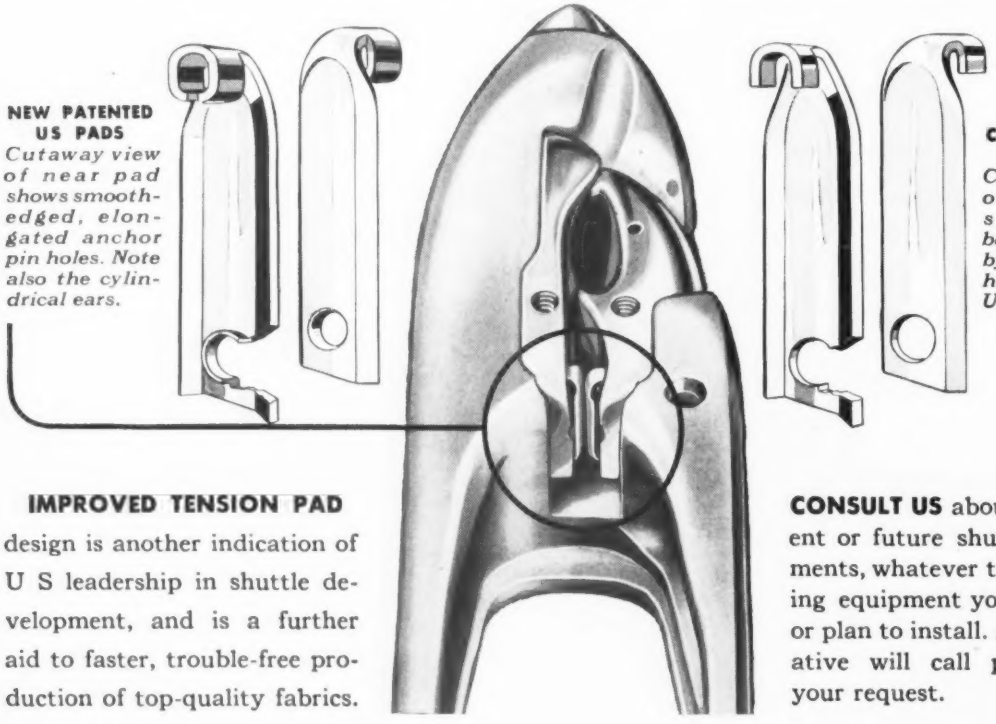
Another US Improvement In Shuttle eye Construction

Pad life doubled — stripback causes minimized — by redesign of anchor pin holes

IN THE NEW patented tension pad designed by U S Shuttle specialists the anchor pin holes are formed so that the metal is drawn out toward the back. The resulting elongated holes provide 100% more bearing surface on the anchor pins. Since the front edge of the hole has a rounded contour, which remains smooth and burr-free even after wear occurs, the causes of stripbacks are minimized. Another improvement is the cylindrical shape of the pad ears, which improves fit in the bushings, decreases bushing wear, and makes changing easier.

IN THE CONVENTIONAL tension pads, anchor pin holes are flat punched. The thin edge alone provides a bearing against the anchor pin, and, as wear progresses, a burr can easily form on the inside of the pad and fray the yarn. Thus, more frequent replacement of pads is required to avoid fabric seconds caused by stripbacks. Also, the U-shaped ears accelerated bushing wear.

COMPARE the new and old pad design in the schematic drawings below, and see why the new U S pads double service life between changes.



NEW PATENTED US PADS
Cutaway view of near pad shows smooth-edged, elongated anchor pin holes. Note also the cylindrical ears.

CONVENTIONAL PADS
Cutaway view of near pad shows thin bearing offered by flat punched hole. Note also U-shaped ears.

IMPROVED TENSION PAD design is another indication of U S leadership in shuttle development, and is a further aid to faster, trouble-free production of top-quality fabrics.

CONSULT US about your present or future shuttle requirements, whatever type of weaving equipment you have now or plan to install. A representative will call promptly at your request.

US BOBBIN & SHUTTLE CO.

PROVIDENCE, R. I.
GREENVILLE, S. C.
CHICAGO AGENT:
Albert R. Breen
80 E. Jackson Blvd.

LAWRENCE, MASS.

CANADIAN AGENT:
W. J. Westaway
Montreal Ave., Hamilton, Ont.

JOHNSON CITY, TENN.
CHARLOTTE, N. C.
ALABAMA AGENT:
Young & Vann Supply Co.
Birmingham

Incorporating many design improvements, this Riggs & Lombard piece-dye kettle is typical of the high speed textile equipment in which U·S·S Stainless Steel is being used to increase both the efficiency and the economy of operation.

. . . just another way of saying "built of the best material for textile mill service."

ONCE you know that your equipment is made of Stainless Steel you know that you can stop worrying about rust and corrosion... you know your cleaning costs will come down ...color-bleeding troubles will stop... change-overs will be faster . . . metallic contamination, soap stains and canker will be a thing of the past.

Stainless Steel has definitely made good in the textile industry. Its use has so consistently paid off in bigger production, in better results, lower maintenance and longer equipment life that today Stainless Steel construction is almost taken for granted in the new, advanced-design equipment now being produced.

It is significant that much of this high-speed equipment is being built with U·S·S Stainless. The ability of this *perfected* Stainless to meet requirements that are new and often unusually severe, and to insure top performance in such applications, is due to two things. First, U·S·S Stainless is available in a variety of analyses that will meet almost any service condition. And, second, its uniformity in composition, in finish and in fabricating qualities allows the widest latitude in design and permits the use of the most advanced manufacturing techniques.

• • •

Our engineers are specialists in Stainless Steel. You will find their help invaluable in determining exactly what type of U·S·S Stainless will do the best, most efficient job for you. Write for their assistance, outlining the problem you have in mind, to United States Steel Corporation Subsidiaries, 2035 Carnegie Building, Pittsburgh 30, Pa.

AMERICAN STEEL & WIRE COMPANY, GENERAL OFFICES: CLEVELAND, OHIO
CARNEGIE-ILLINOIS STEEL CORPORATION, PITTSBURGH & CHICAGO
COLUMBIA STEEL COMPANY, SAN FRANCISCO · NATIONAL TUBE COMPANY, PITTSBURGH
TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM
UNITED STATES STEEL SUPPLY COMPANY, WAREHOUSE DISTRIBUTORS, COAST-TO-COAST
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

8-1010

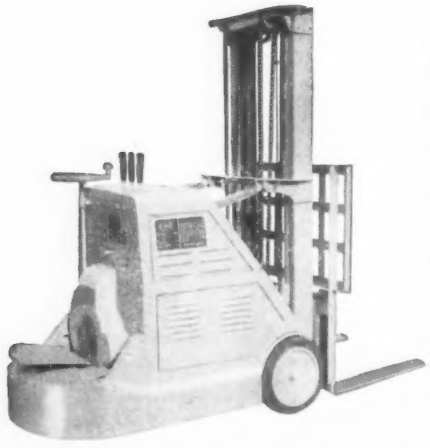
U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

UNITED STATES STEEL

MOBILIFT

The All American Cost Cutter!!



When you let MOBILIFT carry the ball on materials handling, you're bound to hit pay dirt a lot sooner. MOBILIFT, the *"Mighty Midget,"* cuts down many of the costs that stand between you and added profit. Handling costs, production costs, labor costs — the bigger they are the harder they fall when MOBILIFT goes to work in your plant.

MOBILIFT eliminates costly re-handling and steps up the pace of your whole materials handling program. Its compact design, its shorter turning radius and the fact that there are no gears to shift, make it more maneuverable. It saves time on every trip. It saves storage space in your warehouse. It saves backbreaking labor and fatigue. MOBILIFT shows a big increase in the tonnage of materials moved and stacked per day.

MOBILIFT is built in three models—2000, 3000 and 3500 pound capacities. Send for complete details on how MOBILIFT can help you reach your goal of greater profits.

MOBILIFT CORPORATION
835 S.E. Main St., Portland 14, Oregon

Please send me your illustrated folder on Mobilift operation.

Name_____

Firm_____

Address_____

City_____ State_____

MOBILIFT
"The MIGHTY MIDGET"

DISTRICT OFFICES
New York - Chicago - Atlanta
San Francisco - Dallas - Los Angeles

estron

—— *a new name in the language of textiles*

The textile industry has long recognized the need for definite action to clear up the trade and consumer confusion which has resulted from calling by the same name — RAYON — two such different fibers as *regenerated cellulose* and *cellulose acetate*.

Such action has now been taken by the Committee on Textiles of the American Society for Testing Materials, the membership of which includes leading manufacturers, distributors, and users of textile products.

Under the definitions recommended by the ASTM Committee, the word RAYON is confined to man-made fibers composed of *regenerated cellulose*, such as those produced by the viscose process.

For the *cellulose ester* fibers, such as cellulose acetate, the ASTM Committee proposes the adoption of the new generic name ESTRON.

Tennessee Eastman is wholly in accord with the ASTM recommendation that these two major types of man-made fibers bear different names, and believes that the specific terminology recommended by ASTM should be put into practice.

Accordingly, Tennessee Eastman will in the future employ the term ESTRON in labeling and advertising its cellulose acetate textile fibers.

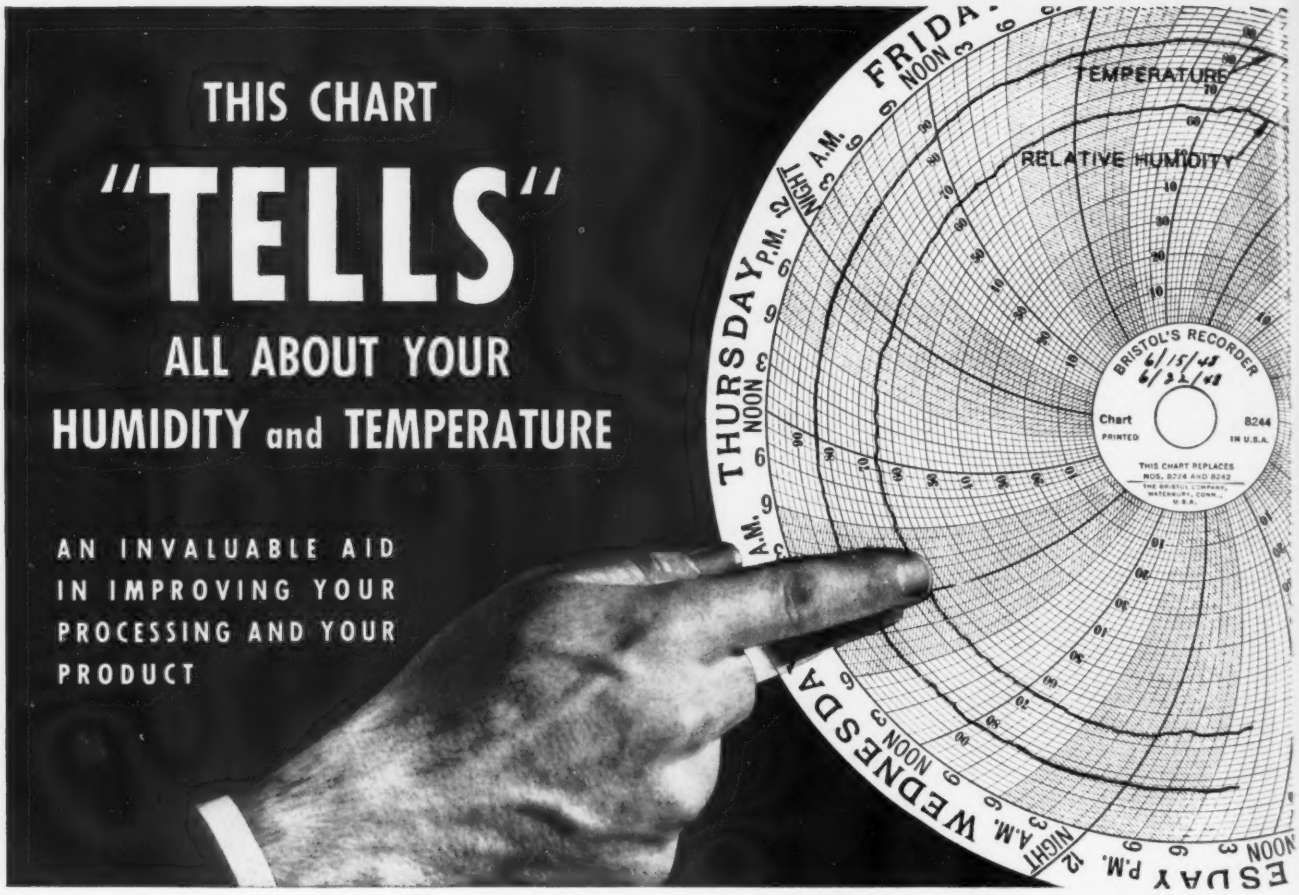
Tennessee Eastman Corporation

SUBSIDIARY OF EASTMAN KODAK COMPANY

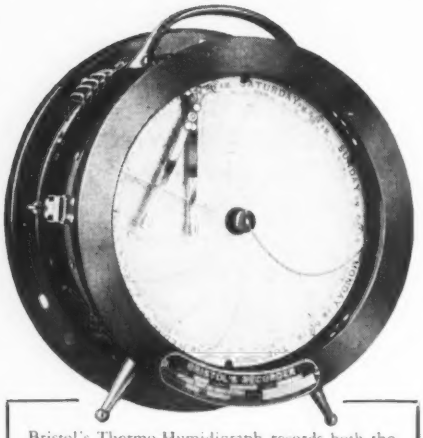
KINGSPORT · TENNESSEE

THIS CHART "TELLS" ALL ABOUT YOUR HUMIDITY and TEMPERATURE

AN INVALUABLE AID IN IMPROVING YOUR PROCESSING AND YOUR PRODUCT



According to the engineer of the full-fashioned silk hosiery mill who sent us this chart, Bristol's Thermo-Humidigraph helps "maintain an even temperature and humidity, thereby saving money by cutting down waste and giving a more uniform product".



Bristol's Thermo-Humidigraph records both the relative humidity and temperature of the surrounding air.

CARRIED IN STOCK FOR IMMEDIATE SHIPMENT
WRITE FOR DETAILS

Approximate net weight, 12 lbs. The best your money can buy in a portable, simple, compact, lightweight relative humidity and temperature recorder. Easy-to-read 8 inch chart.

This Bristol's Thermo-Humidigraph welcomes your closest scrutiny. PORTABLE, compact, lightweight, you can place it anywhere — indoors or outdoors — and it will give you an accurate visual picture of surrounding humidity and temperature conditions.

Bristol's Thermo-Humidigraph is *direct reading*. Just a glance at the round chart, and you at once know the humidity and the temperature. No need for referring to humidity tables. No computations. No wet bulb — no fussing. This Thermo-Humidigraph is as easy to read as your watch. Measurement is by means of a new, improved hygroscopic recording element.

The following comments are typical:

WOOLEN MILL: "Thermo-Humidigraph gives us a check on the machines used for correcting the humidity . . . the value of constant humidity is that we can keep a better check on the weight of the yarn."

ROPE MANUFACTURER: "We feel Thermo-Humidigraph provides the most economical method of providing a record of the relative humidity in our manufacturing."

HAT MANUFACTURER: "The elimination of doubt as to causes of trouble has enabled us to maintain uniform conditions and has reduced losses owing to lack of, or surplus of, moisture."

Order now, while you think of it — under our complete satisfaction guarantee.

WHERE BRISTOL'S THERMO-HUMIDIGRAPH WILL SHOW YOU HANDSOME SAVINGS

COTTON: Carding, combing, roving, spinning, weaving.

RAYON: Spinning, twisting.

SILK: Dressing, spinning, throwing, weaving, knitting.

WOOL: Carding, spinning, weaving.

THE BRISTOL COMPANY
157 BRISTOL ROAD
WATERBURY, CONNECTICUT
Branch Offices in Principal Cities

BRISTOL'S Thermo-Humidigraph

TRADE MARK REG. U.S. PAT. OFF.

THE HANDY PORTABLE DIRECT-READING RELATIVE HUMIDITY RECORDER

In knitting fine hosiery—
every detail demands attention

Foot Construction—a case in point

WOMEN are carefully examining the construction details of hosiery today—especially the details of foot construction. For here smooth, accurate knitting means better fit, longer wear and greater comfort.

To achieve the kind of knitting that passes these critical tests requires needles of top quality . . . needles with the extra fine temper and finish . . . found in Torrington machine-made, machine-tested needles. You can depend upon Torringtons to meet your most exacting requirements—to assure quality and uniformity in every feature that contributes to smooth knitting.

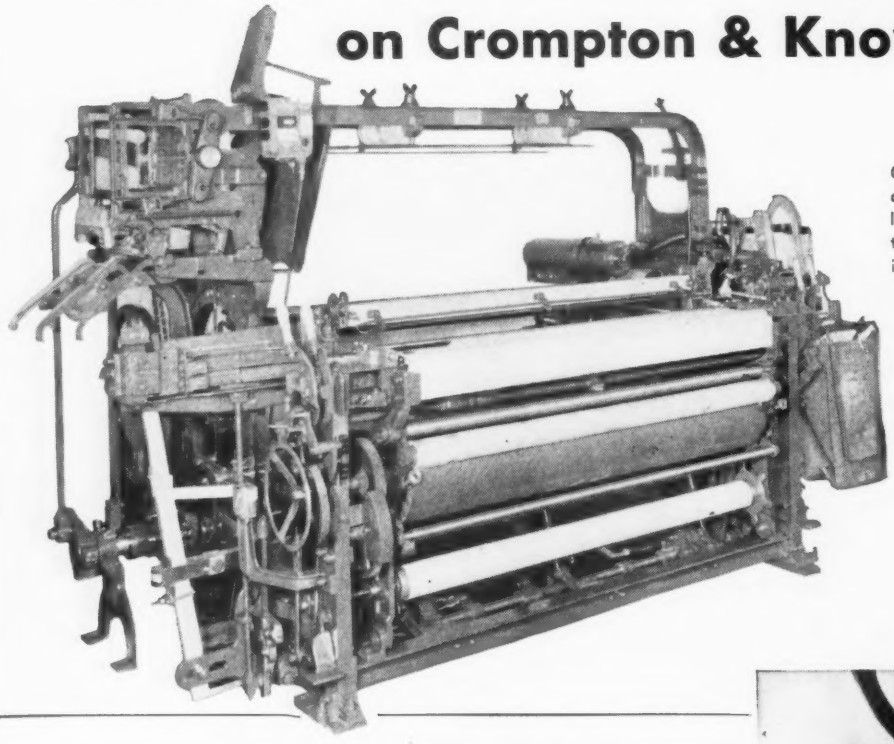
THE TORRINGTON COMPANY, Torrington, Conn., U.S.A.
ESTABLISHED 1866

Branches: New York • Philadelphia • Chicago • Greensboro, N. C.
Boston • St. Louis • Toronto, Canada. *Pacific Coast Representative:*
E. G. Paules, 1762 West Vernon Ave., Los Angeles 37, California
Broadgate House, 7-10, Eldon Street, London E.C.2 England

TORRINGTON

SPRING BEARD NEEDLES • SINKERS • DIVIDERS • SPLIT DIVIDERS

Torrington Needle Bearings Help Improve Quality of Finished Fabric on Crompton & Knowles Looms



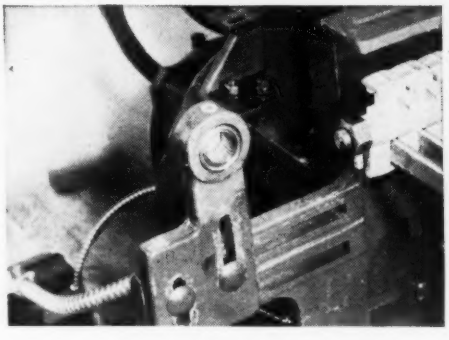
Crompton & Knowles Model S-6 Silk and Rayon Loom secures more efficient lubrication and reduced wear through the use of Torrington Needle Bearings in whip roll and swing reed hanger.

. . . reduction of wear in exacting rotating and oscillating applications helps maintain uniform beat-up and warp tension.

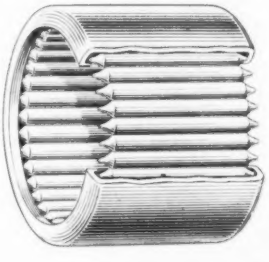
Exact tension control and uniform beat-up are more readily maintained in Crompton & Knowles Model S-6 Looms by reduction of wear and friction in the whip roll and swing reed hanger through the use of Torrington Needle Bearings.

Despite the small amplitude of oscillation, a constant cushioning film of lubricant over bearing surfaces is assured by the bearing design. Closely turned-in lips of the retaining shell conserve lubricant. Small diameter rollers distribute it evenly over rolling contact surfaces. Excessive lubrication is avoided, too, eliminating the possibility of soiling fabric passing close beneath bearing housings.

Compact design, easy fabrication and assembly, reduced power consumption and longer service life are other advantages of Needle Bearings, proved in spinning, knitting, weaving, finishing and other textile machine applications. Call on the specialized experience of Torrington's engineers to help you adapt these efficient, low-cost anti-friction bearings to *your* equipment.



Close-up of whip roll support bracket shows closed end type (M-1616) Needle Bearing in self-aligning mounting.



THE TORRINGTON COMPANY

Torrington, Conn. • South Bend 21, Ind.

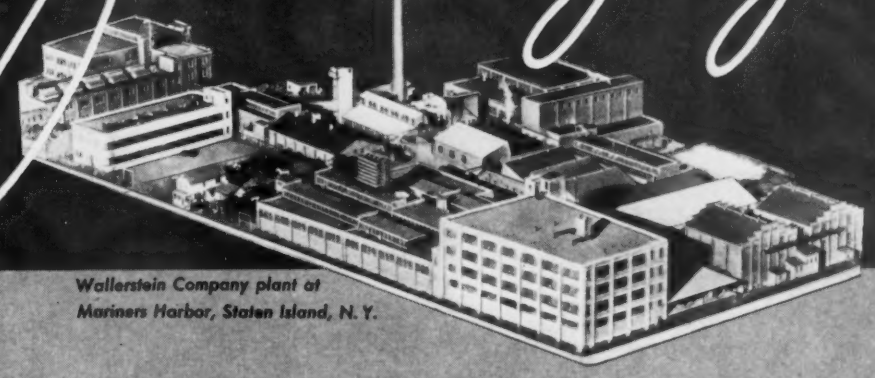
District Offices and Distributors in Principal Cities

TORRINGTON *NEEDLE* **BEARINGS**

NEEDLE • SPHERICAL ROLLER • STRAIGHT ROLLER • TAPERED ROLLER • BALL • NEEDLE ROLLERS

RAPIDASE

for de-sizing



Wallerstein Company plant at Mariners Harbor, Staten Island, N. Y.

SPEEDS PRODUCTION

WITH HIGHER DE-SIZING TEMPERATURES

IS AND ALWAYS HAS BEEN—

HEAT RESISTANT

RAPID IN DE-SIZING

LIQUID —— CONVENIENT

DE-SIZE FASTER AT LOWER COST WITH RAPIDASE

Technicians available • Write for Booklet

WALLERSTEIN COMPANY, INC. • 180 MADISON AVENUE • NEW YORK 16, N. Y.

INVISIBLE SECURITY...

Results you can SEE!

Do you need *controlled humidity* . . .

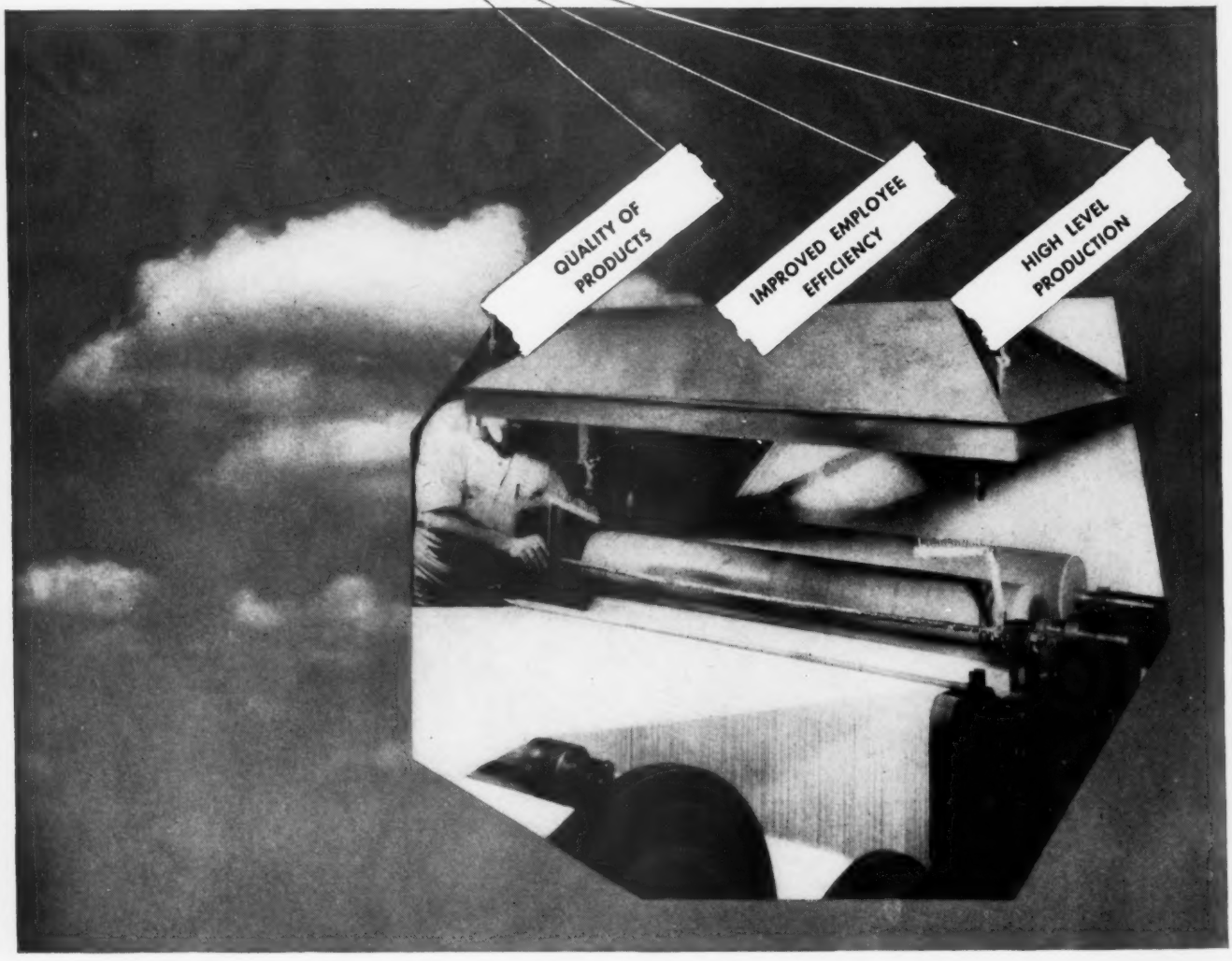
to improve quality of work?
to maintain uniformity?
to reduce static and fly?
to maintain plasticity of size?
to improve loom operations?
to hold filament strength and dimension?

and controlled temperature . . .

to maintain machine adjustments?
to hold machine tolerances?
to give uniformity in knitting operations?
for spot cooling in bleaching and finishing?
to provide employee comfort and health?

These benefits and many more are the visible and tangible results that air conditioning with York can bring to your mill operations. York central station systems will give you accurate control over temperature and humidity . . . operate at a minimum of cost and attention.

And, whatever your specific needs in air conditioning, there's a complete range of York equipment to meet them, and a York representative ready to talk textile installations. He is prepared to supply your plant engineer, consulting engineer and installing contractor with specific information as to equipment—its capacities and performance to fit your special needs. His accumulated data on air conditioning in your particular field will be helpful. York Corporation, York, Pennsylvania.

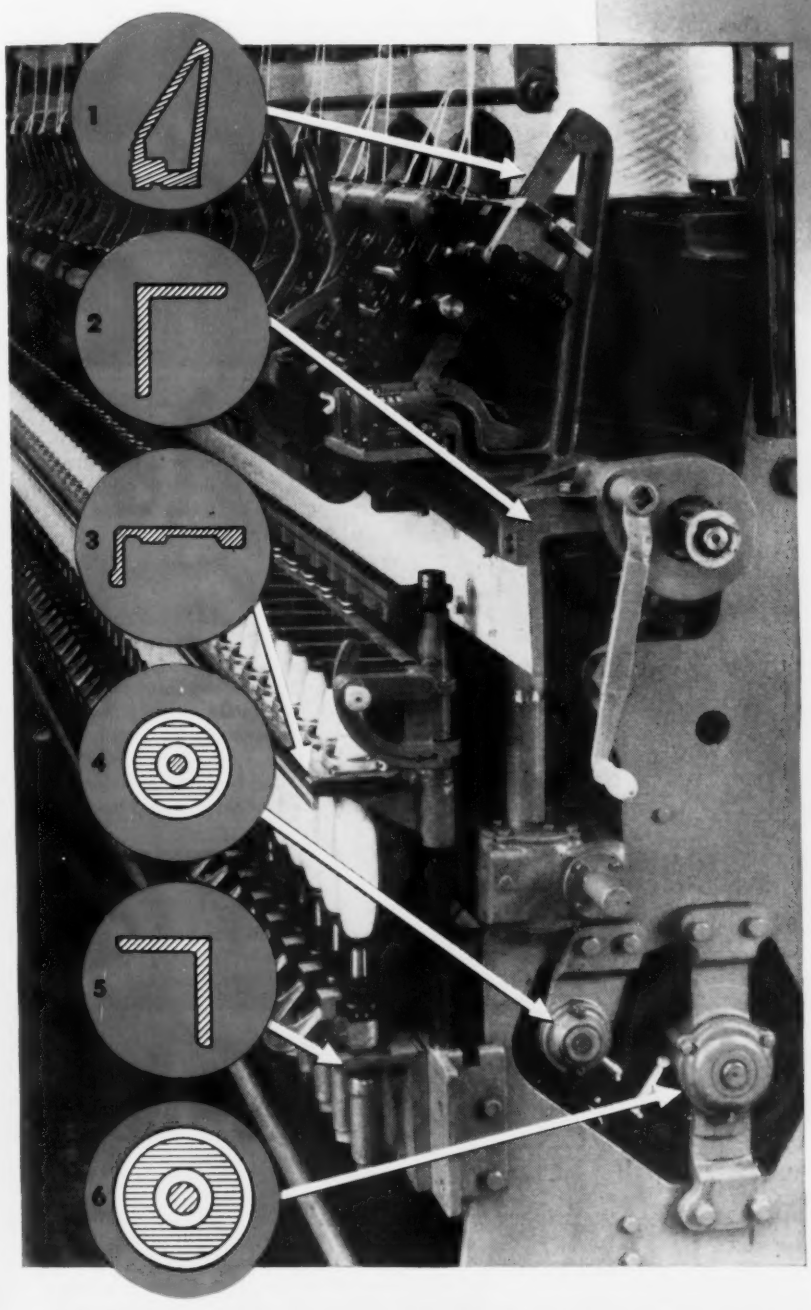


YORK *Refrigeration and Air Conditioning*

York refrigeration air conditioning

HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885

ALCOA ALUMINUM HELPS 6 WAYS IN REACHING HIGH SPINDLE SPEEDS



in McGlynn Hays Ring Spinning Machine

To help attain high spindle speeds without vibration, McGlynn Hays specified (1) cast aluminum brackets to support the rolls of the draft field. Stock 4″ x 6″ Alcoa Structural Angles (2 and 5) form the spindle and draft rails on the entire 50-foot length of the machine.

The ring rail (3) is assembled from 5′ lengths of a special Alcoa Extruded Shape.

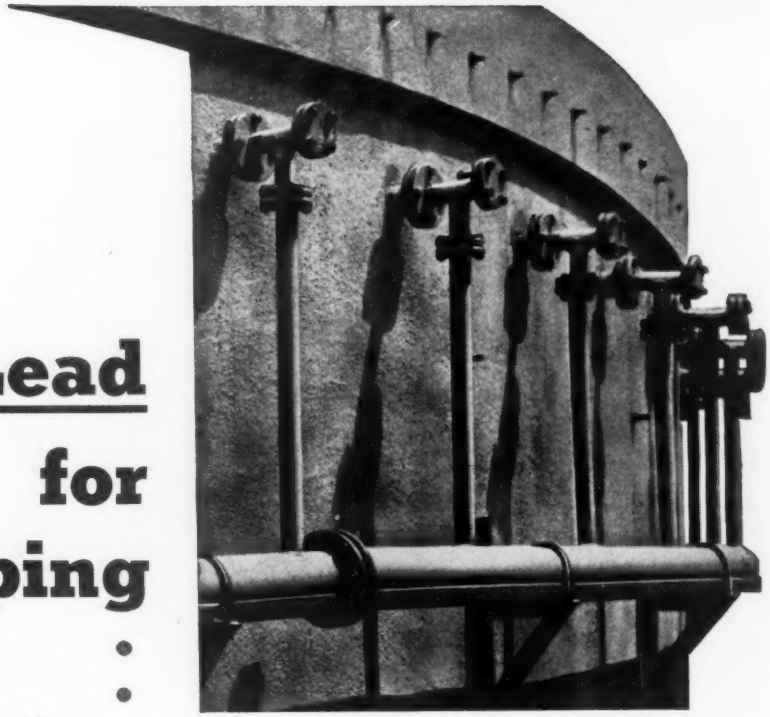
Idler drums (4) are seamless Alcoa Tubing, ten 5′ sections per side. Tape drums (6) are strong walled, dynamically balanced Alcoa Tubing—50 feet of it on each side of the machine.

If your product goes into a mill, it needs Alcoa Aluminum's big advantages: light weight to ease jar and pound, save power and maintenance; corrosion-resistance to guard against soiling or staining. Why not talk to your local Alcoa sales representative about it? ALUMINUM COMPANY OF AMERICA, 1942 Gulf Bldg., Pittsburgh 19, Pennsylvania.

SEE OUR EXHIBIT
at the Textile Show . . . Booth 455-456

ALCOA FIRST IN **ALUMINUM**

ALCOA ALUMINUM 1888 1948 60 YEARS OF SERVICE



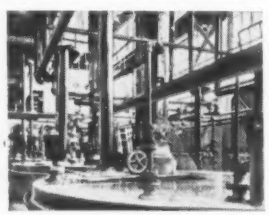
Go Lead for Acid Piping

When installing acid pipe lines for long, trouble-free service, go for a material that stays on the job. *Go National for Lead!*

Lead has proved itself the accepted corrosion-resisting material for acid conveying. National Lead gives you all of lead's advantages, engineered into acid pipe and fittings that withstand elevated or fluctuating temperatures, pressure, vacuum and vibration.

Here are three types ready to help you fight acid corrosion and mechanical stress:

1 All-Lead Pipe: National's Chemical Lead Pipe is widely used throughout industry. Of practically pure lead, substantially free of bismuth, it contains a small amount of copper, which boosts corrosion resistance and endurance limit. The extrusion process used in fabricating this pipe assures uniform wall thickness, free flow, and freedom from porous or defective spots.



***All industry** knows the dependability of lead for acid handling. Here are Chemical Lead Pipe and Fittings used with a battery of digestors.*

This is our *regular* lead pipe. It has become "standard" in many industries. Other useful types are made by alloying small amounts of other metals with chemical lead.

For example, our Tellurium Lead Pipe gives you *extra* corrosion resistance at high temperatures . . . *greater* tensile strength and toughness . . . *higher* endurance to vibratory stress.

Or, if you need *extra* resistance to erosion, there's also our Antimonial Lead Pipe. This is made with a base of either Chemical or Tellurium Lead. By adding 6% of antimony, tensile strength is almost doubled and hardness and stiffness are greatly increased.

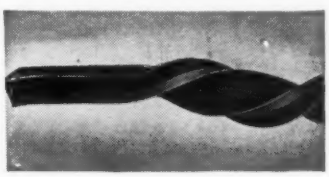
2 Cold Expanded Lead-Lined Pipe: Here's lead pipe plus the strength of iron or steel. It's our "United" Lead-lined Cast Iron or Steel Pipe. *Outside* you have all the strength needed to stand pressure or other mechanical stress; *inside*, the ability to resist corrosion.

***Lead's corrosion resistance** plus the strength of steel! "United" Lead-lined Pipe brings you both.*

The lead lining is formed in continuous lengths of seamless pipe, then cold-expanded against the inside of the iron or steel tube. You get a tight fit and a smooth, uniform lining, free of defects. All iron and steel pipe used meets ASTM standards.

3 "United Tubond" Lead-Lined Pipe: For handling corrosive liquids or gases at extremes of temperature, pressure, vacuum or vibration, we recommend our "United Tubond" Lead-lined Pipe. This is steel or wrought iron pipe with its lead lining permanently *bonded* to the ferrous metal. No separation or creep is possible. The toughness of the bond is demonstrated by the illustration below.

All our lead-lined pipe is available in flanged sections, with the lead lining carried over the face of the recessed flange. This insures a positive lead-to-lead seal at each flange, eliminating any leakage at joints.



***Bonded for keeps!** Once bonded . . . "Tubond" Lead-lined Pipe stays bonded. Even severe twisting can't break the bond.*

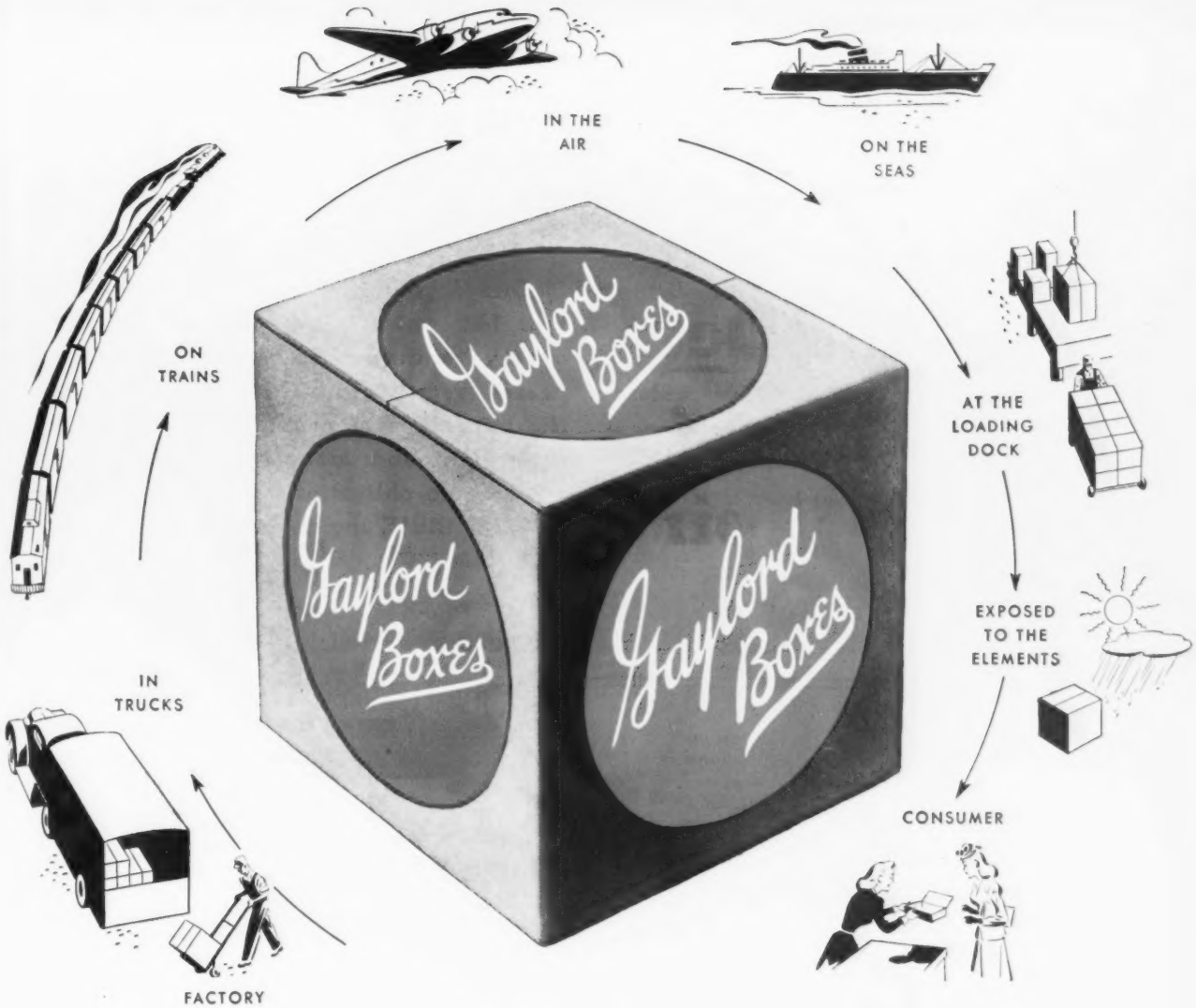
Go National for Lead

. . . pipe . . . valves . . . sheet . . . lead-lined or lead-covered equipment . . . even complete acid recovery plants. Behind every National Lead recommendation, every National Lead product, are years of experience and many important installations in every field handling corrosive liquids and gases.

NATIONAL LEAD COMPANY

111 BROADWAY, NEW YORK 6, N.Y.

Offices and Plants in Principal Cities
Pacific Coast: Morris P. Kirk & Son, Inc., Los Angeles
Canada: The Canada Metal Company, Ltd., Toronto



ON GUARD

TO MINIMIZE YOUR SHIPPING RISKS

No matter how long or rugged the trip for your products from factory to user, Gaylord Boxes are designed to assure safe delivery. Their protection reduces damage claims and helps you promote greater customer good will.

GAYLORD CONTAINER CORPORATION, General Offices: **ST. LOUIS**

Corrugated and Solid Fibre Boxes ●
Folding Cartons ●
Kraft Grocery Bags and Sacks ●
Kraft Paper and Specialties ●

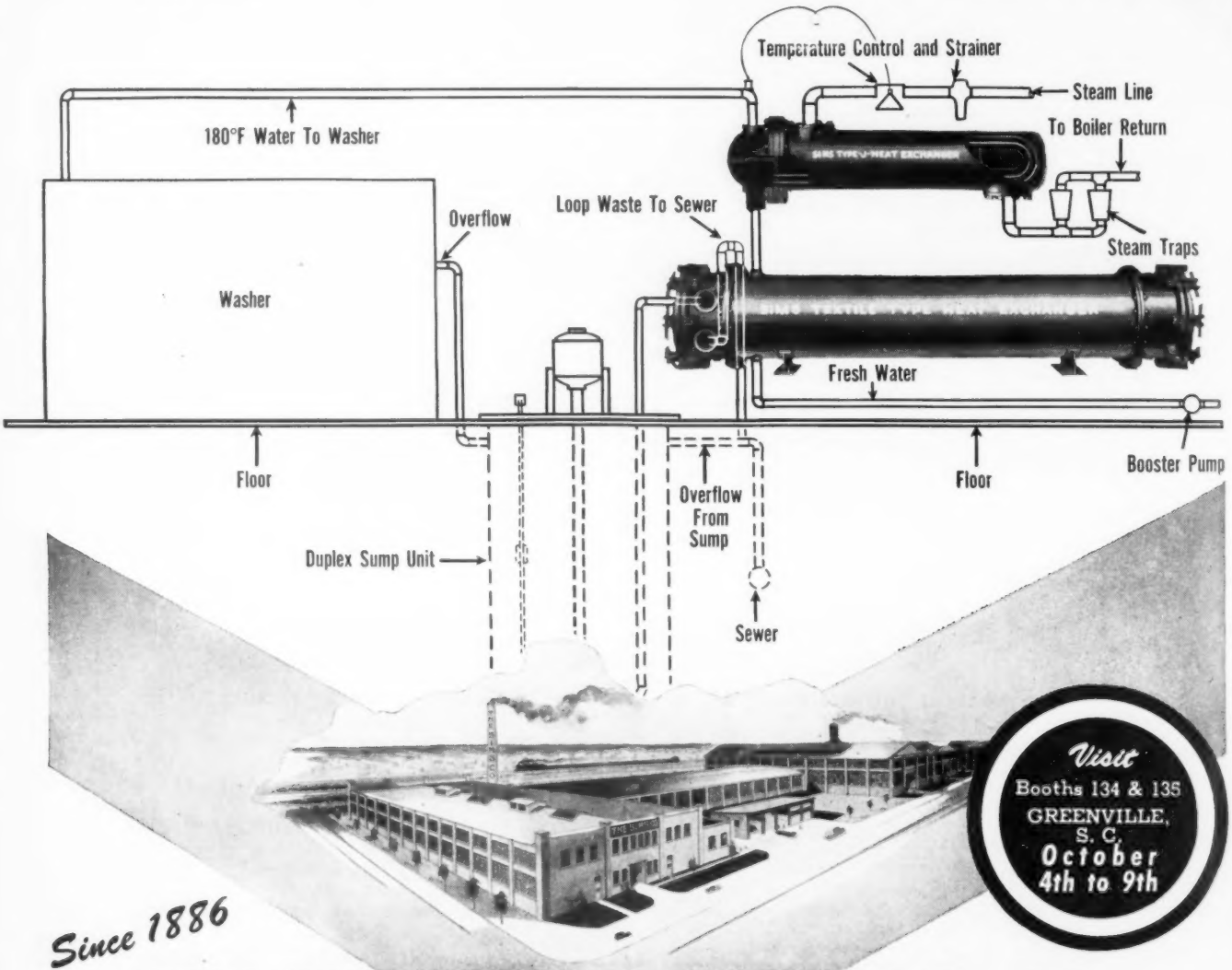
New York • Chicago • San Francisco • Atlanta • New Orleans • Jersey City
Seattle • Indianapolis • Houston • Los Angeles • Oakland • Minneapolis • Detroit
Jacksonville • Columbus • Fort Worth • Tampa • Cincinnati • Dallas • Des
Moines • Oklahoma City • Greenville • Portland • St. Louis • San Antonio
Memphis • Kansas City • Bogalusa • Milwaukee • Chattanooga • Weslaco
New Haven • Appleton • Hickory • Greensboro • Sumter • Jackson • Miami

MILLS Show 70 to 90% Annual Return on Cost of SIMS Heat Recovery Systems . . .

Sims of Erie, Pa., heat recovery specialists, for 62 years have discovered a method of reclaiming valuable BTU's from linty contaminated textile open sewers. If your sewer water is over 120° F., you are wasting fuel enough to pay for this Sims System in a matter of months. Several textile plants show a 70 to 90% annual return on the first cost of their Sims Heat Recovery Systems.

One installation as shown below shows how 180° water is supplied to washers with a very minimum of steam required. Our nearest representative will be glad to survey the possibility of profitable heat recovery in your plant and make definite recommendations at no obligation to you. Consult with SIMS OF ERIE engineers today.

THE SIMS CO., BOX 1096W, ERIE, PENNA.



THE SIMS COMPANY • ERIE, PA.

Manufacturers of Exhaust Gas Boilers • Heat Exchangers • Storage Water Heaters • Feed Water Heaters Steam Separators • Commercial Type Instantaneous Water Heaters • Oil Heaters • Quenching Oil Coolers Caustic Soda (Sodium Hydroxide NaOH) Recovery Equipment and Unit Type Coal Pulverizers

BETTER LIGHT MEANS BETTER PRODUCTION

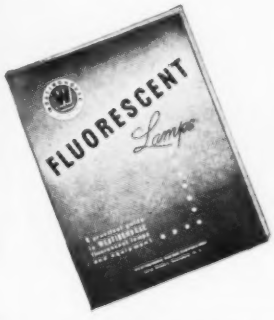
YOU CAN BE SURE..IF IT'S

Westinghouse

THE NAME YOU KNOW IN Lamps

You naturally want the best fluorescent lamps available to keep your lighting system operating at peak efficiency. That's why more and more textile mills are using Westinghouse fluorescent lamps. Westinghouse lamps are a quality product, subjected to 486 tests and inspections from raw material to finished product.

When you use Westinghouse fluorescent lamps, you can be sure of uniformity, long life and high efficiency—the three important advantages you need to get the most out of your lighting system. So the next time you need lamps, specify Westinghouse. Lamp Division, Westinghouse Electric Corp., Bloomfield, N. J.



Send for free booklet A-4759 "A Practical Guide to Westinghouse Fluorescent Lamps and Equipment."

SMOOTH RUNNING IS IN THE PACKAGE, TOO!

There's a world of difference between *still-fit* and *operating fit* in a ball bearing, especially when you're blue-printing higher R.P.M.'s into textile equipment. Holding run-out to a minimum is the problem in order to maintain proper running clearances. Here's a true measure of ball bearing precision . . . in manufacture and operation both.

At Federal, inner and outer races of *every* ball bearing are ground concentric with each other to prevent run-out. The bore is cylindrical, not tapered or bellmouthed, and the sides of the rings are held parallel to each other and the ball track. No Federal Bearing is either too tight or too loose.

Add to this, the ball track ground to a chatter-free finish and just the right radius, plus balls uniformly spherical within .000025" and not varying in diameter more than .00005" in any bearing, and you have the precision ingredients for close tolerance performance.

Over 100 individual production, cleaning and inspection operations go into every Federal Bearing, and *every fourth operator is an inspector* . . . all good reasons why Federals are right for any type of textile machinery.

Our Catalog "K" illustrates and describes the complete Federal line. Write for it today.

THE FEDERAL BEARINGS CO., INC. • POUGHKEEPSIE, NEW YORK

Makers of Fine Ball Bearings

REPRESENTATIVES LOCATED AT

Detroit: 2640 Book Tower–26 • Cleveland: 402 Swetland Building–15
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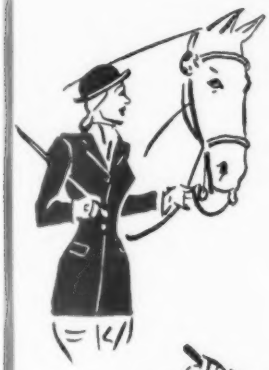
Quality *since 1908*

FEDERAL BALL BEARINGS

ONE OF AMERICA'S LEADING BALL BEARING MANUFACTURERS

do a **complete** job on your **spun viscose** .... **wool blends**



see to it that "both fibers" have the best possible light fastness

DYESTUFFS · CHEMICALS · INTERMEDIATES

CIBA COMPANY, INC.

Greenwich & Morton Sts. NEW YORK

BOSTON CHICAGO CHARLOTTE PROVIDENCE SAN FRANCISCO PHILADELPHIA

VAT DYES OF THE DOW CHEMICAL CO.

VISCOSE RAYON

selected "Chlorantine Colors"

PLUS the brand new

CHLORANTINE FAST BLUE BCL

CHLORANTINE FAST GREY GRL

WOOL

Neutral Dyeing

NEOLAN Colors

LIGHT FASTNESS UNAFFECTED BY RESIN TREATMENT

THE COLOR THAT INTERESTS YOU MOST . . .

the GREENBACK

AND

Tailored Color

Your aim is profit . . . our aim is profit. Our aims are mutual.

Florence yarns plus *Tailored Color* assure you the greatest opportunity for profit—and more of your favorite color—the "Greenback"!

Laboratory and scientific control, accurate, positive color matching to the fastness and shade you specify, is what you pay for at *Florence*.

In the complete analysis, we believe, this is the surest combination for our *mutual profit*.

If you agree, why not ask *Florence* about *Tailored Color* for a quality product and a bigger profit?

FOR *Tailored Color* WRITE

FLORENCE THREAD CO., INC.

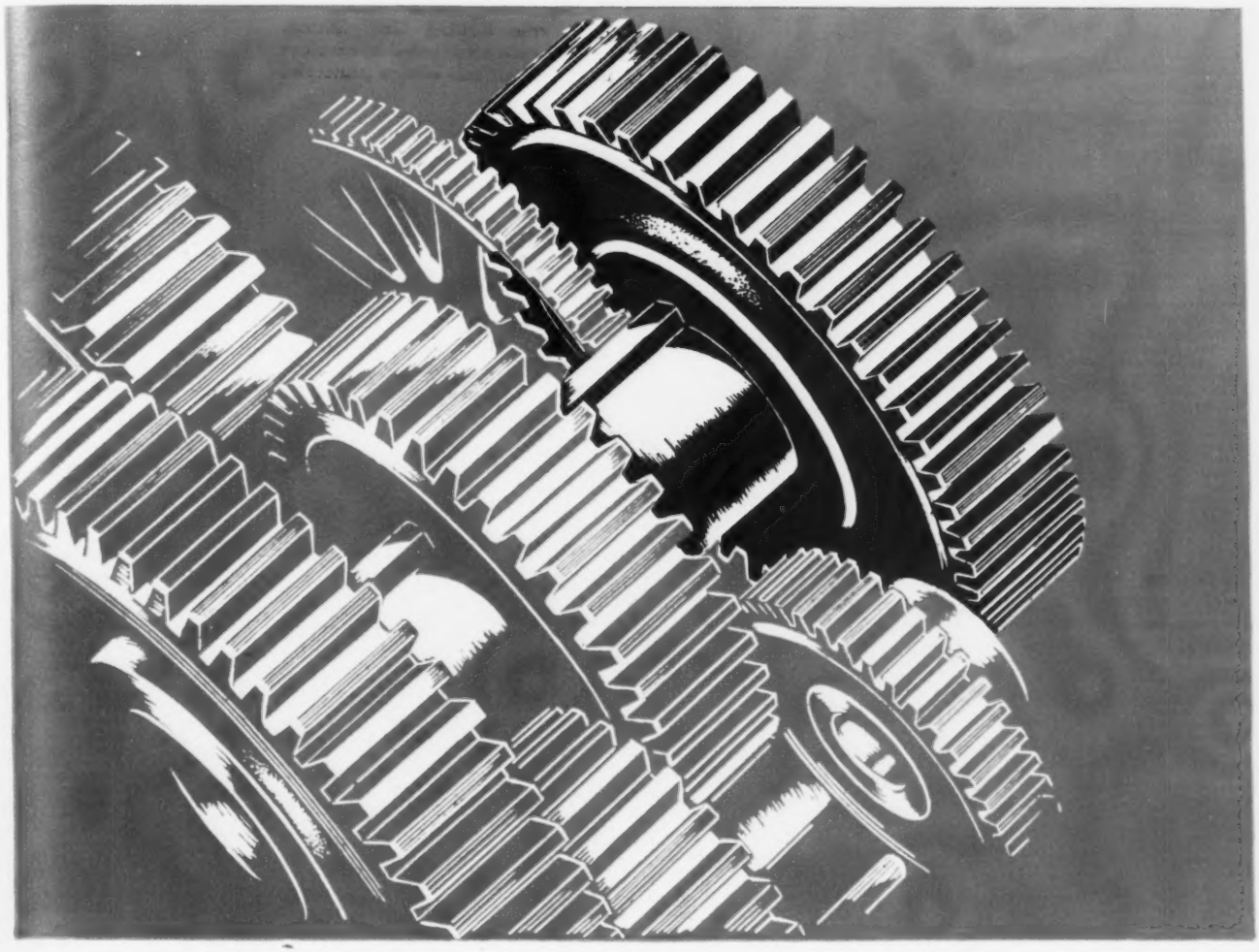
Established 1894

FAIRVIEW STREET • RIVERSIDE, NEW JERSEY

New York Sales Office—55 W. 42d St., N. Y. 18, N. Y.

Package Dyers and Processors of Cotton, Wool, Synthetic and Blended Yarns

YES! Tycol "Engineered Lubrication" performs better . . . BETTER . . . BETTER



Tycol Engineered Lubrication performs better because:

. . . *Tycol Engineered Lubrication* supplies the scientific answer to every lubricating need in industry—from spindle oils for textile plants to roll neck greases for steel mills.

. . . *Tycol Engineered Lubrication* boosts production by promoting efficient, smoother-running machine operation . . . there's a Tycol oil or grease "engineered" for your specific job.

. . . *Tycol Engineered Lubrication* slashes costs by prolonging equipment life, protecting it against wear and tear . . . repair bills and "down time" are invariably reduced.

Let Tide Water Associated help you select the best lubricant for your particular need. Write, wire or phone today to your nearest Tide Water Associated Office for full details.

TYCOL
INDUSTRIAL LUBRICANTS

Boston • Charlotte, N. C.
Pittsburgh • Philadelphia
Chicago • Detroit • Tulsa
Cleveland • San Francisco

TIDE WATER ASSOCIATED OIL COMPANY
17 BATTERY PLACE - NEW YORK 4, N.Y.

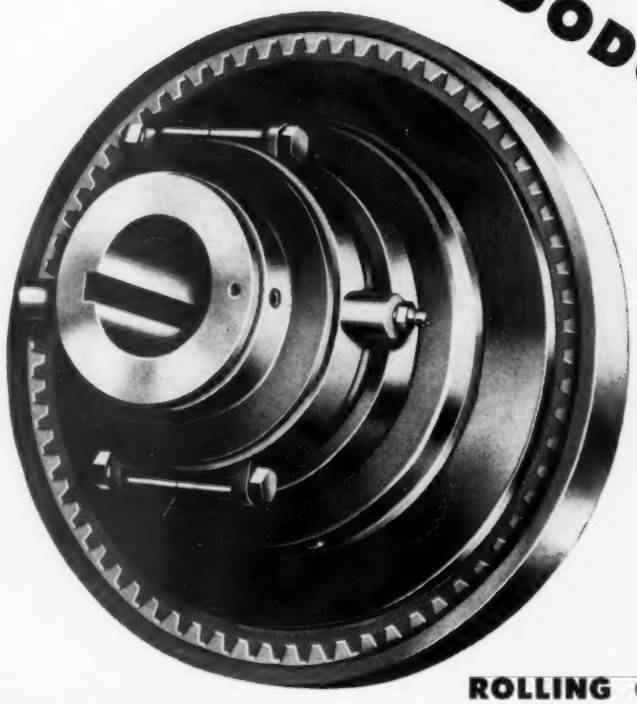
LUBRICATION—"ENGINEERED TO FIT THE JOB"

-AND HERE'S ANOTHER "FIRST" BY DODGE!

Here is another Dodge development which simplifies and improves power transmission machinery . . . the Rolling Grip Clutch. Toggles are *eliminated* by employment of ball and wedge principle.

Heavy power-transmitting pressure on the friction disc is developed by a circle of hardened steel balls which are forced into a wedge-shaped groove by the sliding cam.

The "wedge" of cam and groove contours multiplies the force exerted on the shifter collar into a powerful force on the friction disc.



Engagement is easy and positive —smooth as a rolling ball. Great flexibility, ease of control and extreme ruggedness are provided in this modern, compact unit

Available in Bolted Plate or Gear Tooth Plate series—in sizes from .38 H.P. to 21.2 H.P. at 100 R.P.M. Write for special bulletin, A282.

DODGE MANUFACTURING CORPORATION
Mishawaka, Indiana

ROLLING GRIP CLUTCH

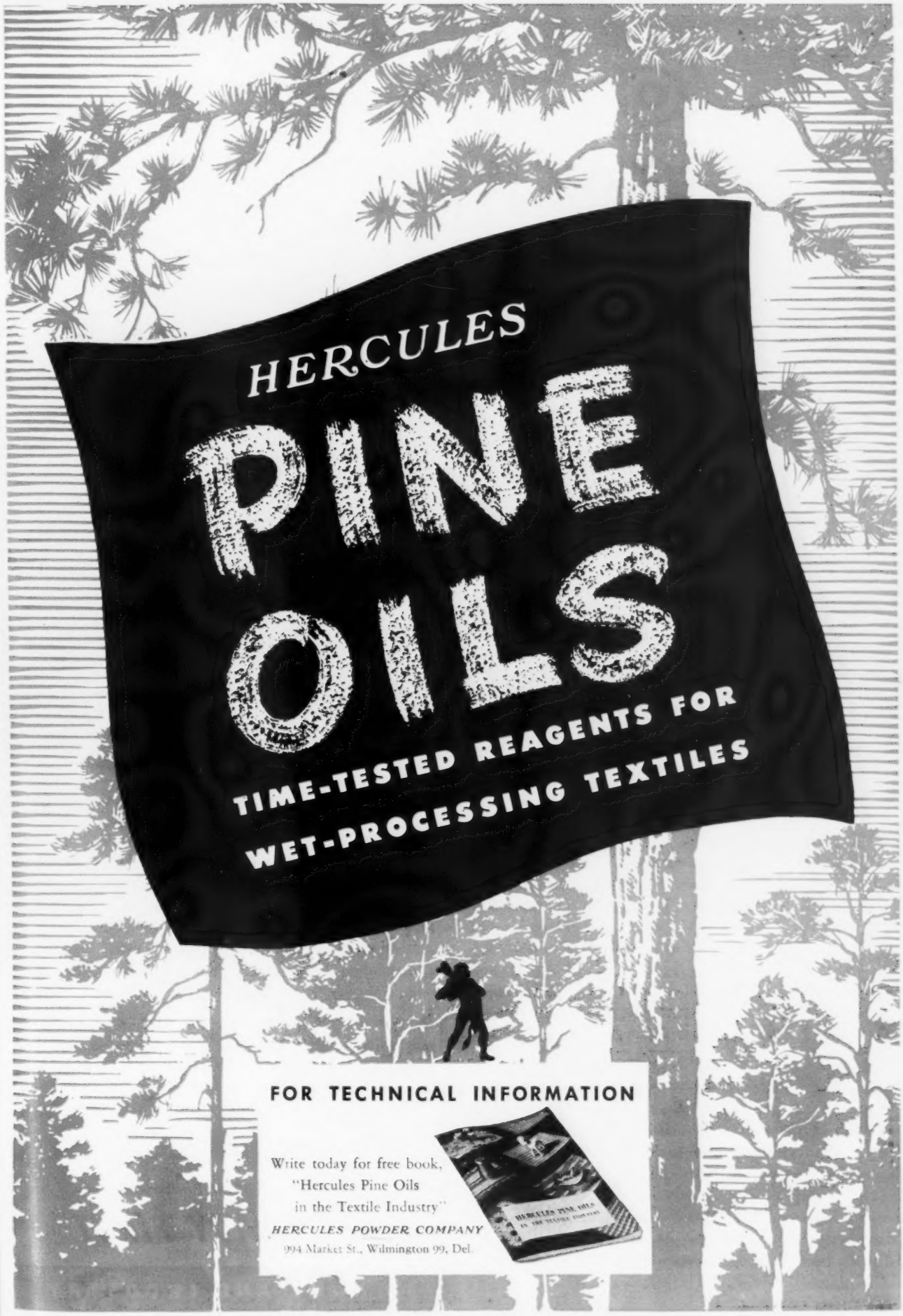
DODGE
of Mishawaka, Ind.

CALL THE TRANSMISSIONEER

He is your local Dodge Distributor—factory trained—qualified to suggest ways to improve your machine performance, increase production. Look for his name under "Power Transmission Equipment" in your classified phone book.

[Copyright, 1948, Dodge Mfg. Corp.

NAME PLATES · FOR YOUR NAME PLATE REQUIREMENTS, WRITE OUR SUBSIDIARY, ETCHING COMPANY OF AMERICA, 1520 MONTANA STREET, CHICAGO 14, ILLINOIS


HERCULES
PINE
OILS
TIME-TESTED REAGENTS FOR
WET-PROCESSING TEXTILES
FOR TECHNICAL INFORMATION
Write today for free book,
"Hercules Pine Oils
in the Textile Industry"
HERCULES POWDER COMPANY
994 Market St., Wilmington 99, Del.

AS you suspected, it's that panel of Taylor Fulscope Time Schedule Controllers. They're carrying out the whole size cooking operation automatically! The operator has just loaded a cooking kettle, pushed the starter button, and stepped out of the picture. The Fulscope Indicating Controller on the wall maintains the proper storage temperature.

This scene in one of the south's largest denim mills shows how Taylor Accuracy is helping to keep quality up and costs down. Once the ideal cooking schedule is determined, the Taylor control system faithfully reproduces each succeeding batch of size. It prevents overcooking and overboiling and insures uniformity. And the dual-case construction of each Fulscope permits easy accessibility to both control mechanism and cam and trip mechanisms.

This system is only the first step toward automatic control of the entire slashing operation. Ask your Taylor Field Engineer for further information on our control systems for all four steps: *size cooking, storage kettle temperature control, size box level control,* and finally, *slasher cylinder control.* Or write Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada.

▼ ▼ ▼

Instruments for indicating, recording, and controlling temperature, pressure humidity, flow and liquid level.

Taylor Instruments
MEAN
ACCURACY FIRST
IN HOME AND INDUSTRY

"STAINLESS STEEL cuts our cleaning costs . . ."

—say dye works superintendents

The stainless steel construction of this continuous dye jig makes it easy to clean—protects fabric colors. Other uses for ENDURO Stainless Steel include dye vats, tanks, kettles, tables, dry cans, rollers, saturators, sticks, racks and bleaching equipment.

• Dyeing equipment made of Republic ENDURO Stainless Steel cuts costs from the day it is installed. *Easy to clean* and to *keep clean*, it puts an end to hard scrubbing with strong caustics. A simple rinsing with plain water—or with a mild cleaning compound—quickly restores its good-as-new condition.

And, because it cleans so easily, ENDURO equipment needs no costly boiling out period . . . makes possible lightning-fast changes from dark to light colors with no danger of color carry-over . . . saves you time.

It will pay you well—in lower cleaning costs and in countless other ways—to investigate *all* the money-saving possibilities of Republic ENDURO Stainless Steel. Booklet 444 is filled with up-to-the-minute information. Write for your free copy.

REPUBLIC STEEL CORPORATION
Alloy Steel Division • Massillon, Ohio
GENERAL OFFICES • CLEVELAND 1, OHIO
Export Department: Chrysler Building, New York 17, New York

REPUBLIC STEEL

Enduro Reg. U. S. Pat. Off.

STAINLESS STEEL

RESISTANT TO RUST AND CORROSION • RESISTANT TO HEAT • HIGH IN STRENGTH • EASY TO FABRICATE
EASY TO CLEAN • FREE FROM CONTAMINATION • EYE APPEALING • LONG LASTING • LOW ULTIMATE COST

A PRODUCT OF REPUBLIC STEEL

Why Cotton Processors are Switching to Stainless

Experienced cotton mill men have long known the economies of ARMCO Stainless Steels in bleaching and dyeing equipment. But only in the past few years has this rustless metal been used for yarn-making and weaving. Here too it is proving itself the best buy for today's dollar.

In these slasher exhaust hoods, for example, ARMCO Stainless has many advantages. They will last indefinitely without costly maintenance or repairs. Because this metal resists corrosion, it is not affected by high humidity. There are no rust spots to drip on woven cloth.

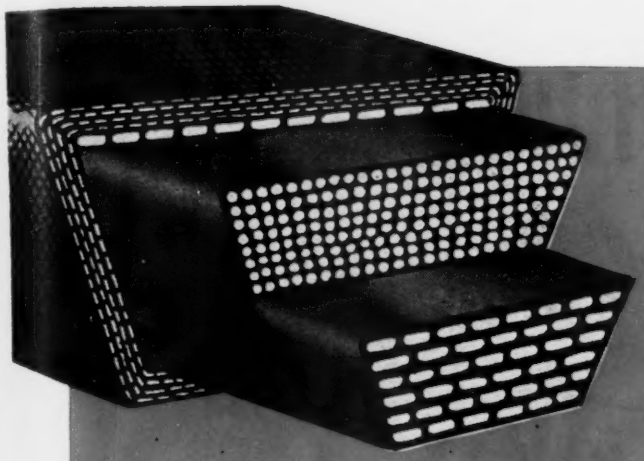
Lint and other particles that collect on wet hoods are easy to remove with a brush or cloth. The surface of ARMCO Stainless is hard and smooth and there are no crevices for foreign matter to lodge in.

As in raw processing, Stainless bleaching and dyeing equipment steps up efficiency, keeps production costs down. Delicate colors are not affected by chemical reaction on sensitive dyes. No "corrections"—no boil-outs, are needed before changing chemicals. And there is no danger of spotting caused by contact with rusty equipment.

Let your equipment fabricator show you how other mills are profiting from the use of ARMCO Stainless Steels. There is a grade for practically every application. Armco Steel Corporation, 479 Curtis Street, Middletown, Ohio.

ARMCO STAINLESS STEELS

ARMCO



BULL DOG V-BELTS

HELP THE TEXTILE INDUSTRY BUILD GREATER PRODUCTIVITY

In the present postwar rush for greater production, there's a noticeable trend toward bigger machines with higher operating speeds. Thus more work is turned out, and V-Belts have to carry heavier loads and stand more punishment.

Bull Dog V-Belts are designed to meet these present day conditions. They're entirely new — not a rehash of old construction, but a brand new product developed in BWH laboratories to do your job better, for a longer time, at lower cost. Test runs in leading industries prove that Bull Dog V-Belts more than measure up to laboratory predictions of amazingly increased efficiency.

In the short time they've been on the market, Bull Dog V-Belts have won phenomenal acceptance. Here's why:

EXCLUSIVE BWH Bull Dog Cords have greater tensile strength.

EXCLUSIVE BWH Compounds run cool, don't crack, or deteriorate under severe flexing.

EXCLUSIVE BWH Covers of heavy, bias-cut material resist wear, protect against dirt, grease, moisture.

Specify Bull Dog V-Belts on your next installation. You'll be glad you did, when you see maintenance cost sheets and production records!

OTHER FAMOUS BWH PRODUCTS

BWH Condenser Aprons and Textile Air Hose are winning new laurels throughout the industry for their stamina and efficiency of operation. For details, write your BWH distributor.

Another Quality Product of

BOSTON WOVEN HOSE & RUBBER COMPANY

Distributors in all principal cities

PLANT: CAMBRIDGE, MASS., U. S. A. • P. O. BOX 1071, BOSTON 3, MASS.

UNION PACIFIC

The Governor of Washington invites You

State of Washington
EXECUTIVE DEPARTMENT
Olympia

MON C. WALLGREN
Governor

To American Industry:

Washington is a fast growing state. We are extending our war-time gains and making great strides forward. People are hard at work building more dams, laying out new towns, preparing new land for farms.

The Columbia River is the greatest single source of electrical power in the world. With low-cost power, our wealth of natural resources, and our maritime trade with Alaska and the Orient we are establishing a regional economy unrivalled in the nation.

Enterprising business men will find here new and exciting industrial opportunities. These include processing of raw materials, fabrication of new products, diversified trades to service a growing city and farm population.

Washington State is a good place in which to live, to work, to do business and to prosper.

Governor

Mon C. Wallgren

* One of a series of advertisements based on industrial opportunities in the states served by Union Pacific Railroad.

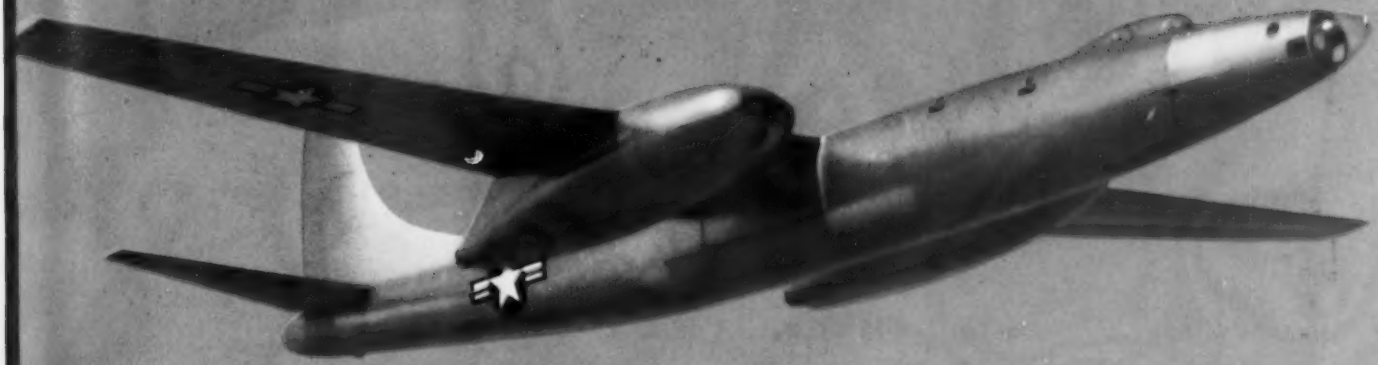
Unite with Union Pacific in selecting sites and seeking new markets in California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, Oregon, Utah, Washington, Wyoming.

*Address Industrial Department, Union Pacific Railroad
Omaha 2, Nebraska

UNION PACIFIC RAILROAD

Road of the Daily Streamliners

HIGH SPEED



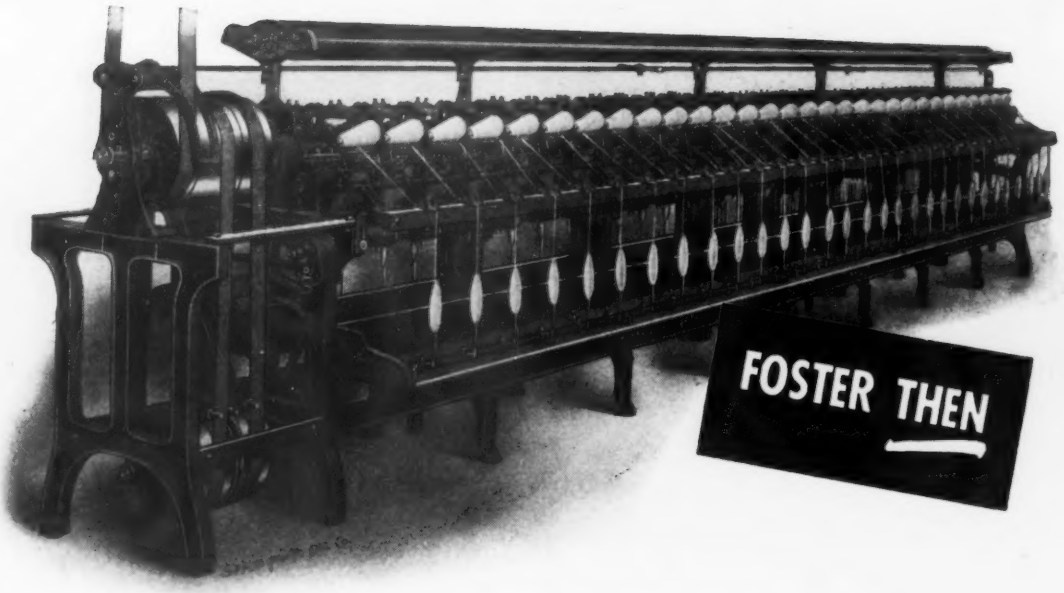
Living in an age of speed tends to quicken the pace of everything. Fast-growing competition demands a better quality product that will keep sales curves up. Ever-dependable Dixie Durene enables you to produce more of the merchandise that can meet . . . and beat this competition.

DIXIE MERCERIZING COMPANY

Chattanooga 1, Tennessee

Made of
Durene*
multi-ply mercerized combed cotton yarn
4 WAYS BETTER
than ordinary cotton yarns
EXTRA COMFORT
---more absorbent
EXTRA STRENGTH
---longer wear
EXTRA QUALITY
---lasting lustre
EXTRA SERVICE
---easy to wash
* Reg. U. S. Pat. Off. © 1944

Dixie Durene



THE FOSTER WINDERS

AND HOW THEY GREW!

● In between then and now Foster has continued to make better winders for better yarn. The progress from the 1900 vintage winder above to the modern Model 102 below, is obvious. Less obvious and more difficult to appreciate, but perhaps most important to you, is the 57 years of accumulated experience that have made Foster a name synonymous with whatever is best in winding machinery, and the Foster cone the standard of excellence throughout the world. Foster has used its 57 years well.

FOSTER MACHINE CO. **WESTFIELD, MASSACHUSETTS**

Southern Office: Johnston Building, Charlotte, North Carolina; Canadian Representative: Ross, Whitehead & Company, Limited, University Tower Bldg., 660 Ste. Catherine St., West, Montreal, Quebec; European Representative: Muschamp Taylor Ltd., Manchester, England

Century Splash Proof
Squirrel Cage Motor

Century Splash Proof
Slip Ring Motor

Century Splash Proof Motors

PROTECTED—

FROM A TRICKLE OF LIQUID TO THE FULL FORCE OF A HOSE DURING PLANT WASHDOWN

Century Splash Proof Direct
Current Motor

From a trickle of dripping liquid to the full force of a hose during a plant washdown, Century Splash Proof motors will keep the vital parts of the motor dry — keep them in service longer. They eliminate unnecessary production losses due to dripping or splashing liquid or falling solids which might otherwise damage the vital parts of the motor.

Century Splash Proof motor windings are insulated to resist the damp atmospheres found where splash proof design is recommended. Special insulations are often provided for unusual concentrations of acids and alkali. This gives you additional protection against costly work stoppages.

These motors are ideal for installations on such equipment as pumps, conveyors, agitators, washers, dryers, and many others often encountered in food, chemical, and textile processing.

Century builds a complete line of electric motors in sizes from 1/6 to 400 horsepower to meet the requirements of industrial and commercial needs.

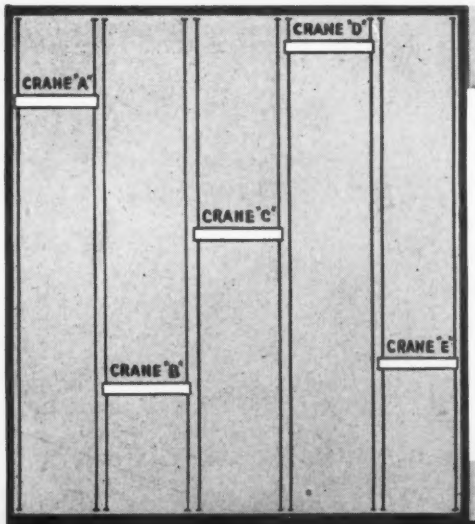
Specify Century motors for all your electric power requirements.

597

Century C MOTORS

CENTURY ELECTRIC CO. 1806 Pine St., St. Louis 3, Mo.

Offices and Stock Points in Principal Cities



Because the beams are conveyed above the looms, note how close together it has been possible to locate the rows of machines in this room. This means more looms in a given floor area.

TRAMRAIL CRANES SIMPLIFY BEAM HANDLING IN WEAVE ROOM

Five crane runways with one 2000-lb. manually-operated crane on each, serve this weave room with approximately 700 looms.

There is no easier, simpler, more efficient way to handle beams in the weave room than by overhead materials handling equipment. One man transports a beam with ease on smooth rolling Cleveland Tramrail cranes.

Regardless of how closely spaced are the looms, beams can be conveyed, placed into or taken out of them quickly and safely. Only space enough for the operator to walk in is required.

Inexpensive hand propelled cranes have proven admirable for this service. The equipment requires practically no maintenance. It is easy to install and can usually be erected without hindering production.

Let Cleveland Tramrail engineers give you the details. It may be possible to install more looms in your present floor areas as well as make your beam handling more efficient.

GET THIS BOOK!
BOOKLET No. 2008. Packed with valuable information. Profusely illustrated. Write for free copy.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
8464 EAST 287TH ST. WICKLIFFE, OHIO

CLEVELAND TRAMRAIL
OVERHEAD MATERIALS HANDLING EQUIPMENT

4-Way Saving

Read how Acme Silverstitcher methods give you savings in time, material, labor, shipping costs, storage space

1 Save on time. Acme Silverstitchers prepare fiberboard boxes for shipment in record time. Boxes can move on a production-line basis, built as needed.

2 Save on material. Acme Silverstitch wire used with fiber boxes helps eliminate large amounts of other, more costly boxing materials.

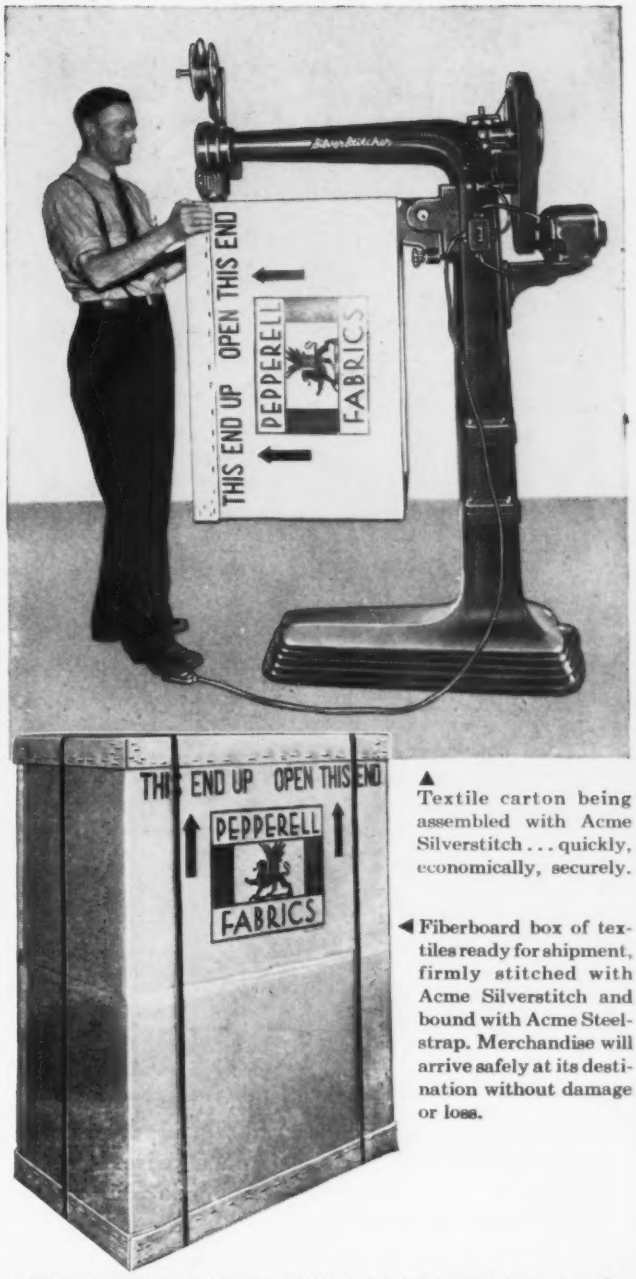
3 Save on labor. Here's an actual case! In one customer's plant, one man, using Acme methods, prepares 5 times as many boxes per hour as he was able to assemble by other methods.

4 Save on shipping weight. Fiber boxes assembled with Acme Silverstitch wire, used in the bale method, reduce packaging costs by eliminating other heavier packaging materials.

Yes, Acme's Four-Way Savings mean increased profits for you. And shipments prepared the Acme way are safer, more secure for hundreds of users throughout the country. Let us show you how to safeguard your merchandise and cut costs. Clip and mail the coupon below.

ACME STEEL COMPANY

NEW YORK 17 ATLANTA CHICAGO 8 LOS ANGELES 11



▲ Textile carton being assembled with Acme Silverstitch . . . quickly, economically, securely.

◀ Fiberboard box of textiles ready for shipment, firmly stitched with Acme Silverstitch and bound with Acme Steelstrap. Merchandise will arrive safely at its destination without damage or loss.

ACME & MORRISON
Silverstitchers
REG. U. S. PAT. OFF.

AND SILVERSTITCH BOX-STITCHING WIRE

Acme Steel Company, Dept TW-108
2838 Archer Avenue
Chicago 8, Illinois

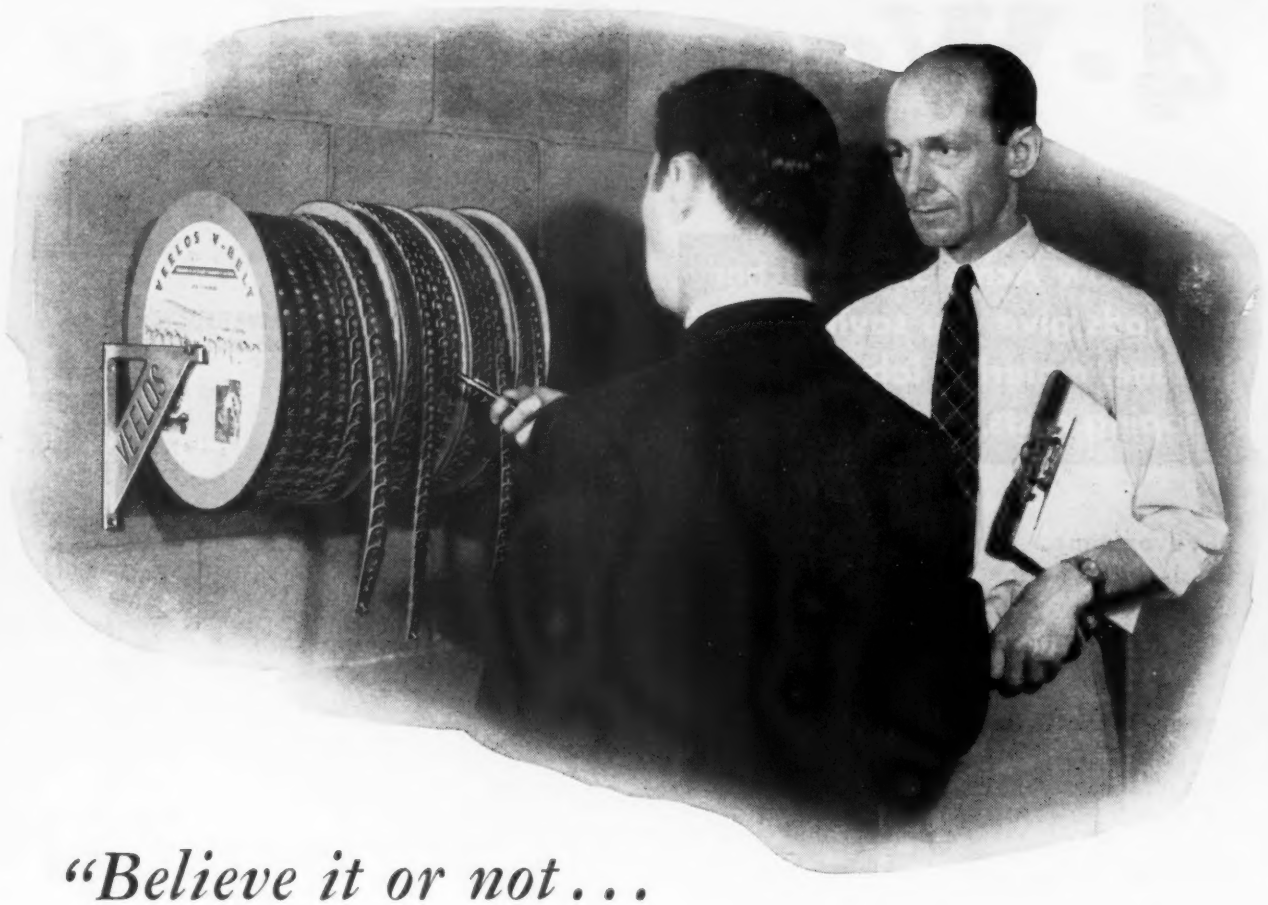
Gentlemen: Please send me your free booklet on packaging textiles for shipment.

Name.....

Company.....

Address.....

City.....Zone.....State.....



"Believe it or not . . . this is my COMPLETE V-Belt Inventory"

"WE used to stock 124 different sizes of endless V-belts. Now, just four reels of Veelos, the link V-belt, give us every size we need. The right length belt for any drive is uncoupled from a reel, quickly made endless, then installed. Machine downtime for belt changeover is almost eliminated by the ease with which matched sets of any required length can be coupled on a drive. And by switching to Veelos, we've made a big saving on our V-belt investment."

You can do the same.

4 reels of Veelos provide as many as 316 sizes of endless V-Belts

Very likely you need less than 316 sizes for a complete V-belt inventory. When you stock Veelos on reels you can forget belt deterioration and obsolescence. Storage space is saved. Inventory records are simplified.

Veelos is made in all standard sizes . . . fits all standard grooves . . . is available in 100 foot reels. Sales engineers in principal cities; over 300 distributors throughout the country.

VEELOS
THE LINK
V-BELT

NEW VEELOS CATALOG

This is the catalog that brings many V-belt benefits to you. It gives you all the facts and complete engineering data. Your copy sent on request.

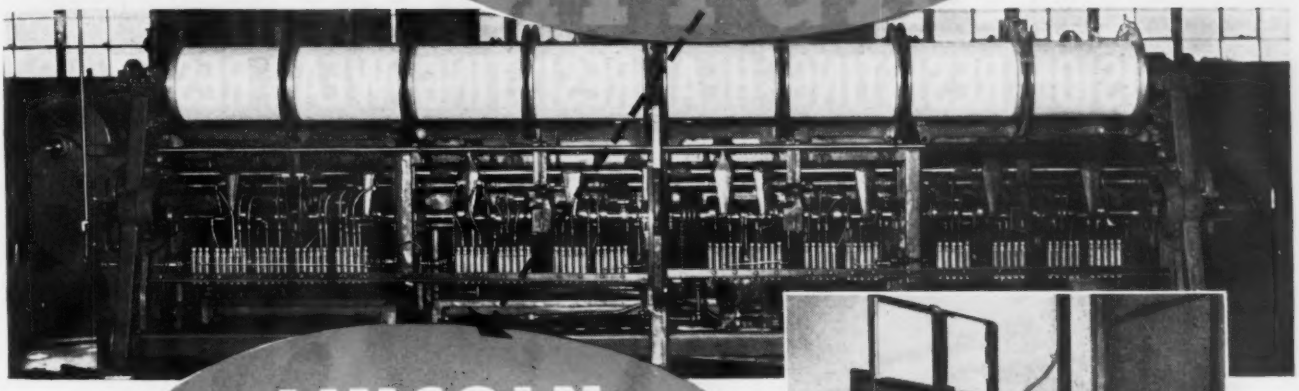
MANHEIM MANUFACTURING & BELTING COMPANY
MANHEIM, PENNSYLVANIA

VEELOS is known as VEELINK outside of the United States

ADJUSTABLE TO ANY LENGTH • ADAPTABLE TO ANY DRIVE

KO-NIT MILLS
Saves Valuable Production Time with the

One of the batteries of Tricot Machines showing Centro-Matic Injectors mounted in manifold.

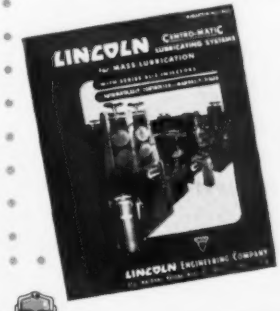


LINCOLN
Centro-Matic
LUBRICATING SYSTEM

Continuous operation six days a week—24 hours a day... is the gruelling pace of modern production. But it's easy for the machines in the Ko-Nit Mills because they are equipped with a Lincoln Centro-Matic Lubricating System. Bearings on all the machines in this model plant are automatically lubricated every two hours with a predetermined, accurately measured amount of lubricant. Uninterrupted production goes on continuously without down time for repairs due to bearing failure... no lost time ... no lost manhours while machines are being lubricated.

Lincoln Centro-Matic Pump which delivers lubricant from 400-lb. original container to all machines in the plant.

Lincoln Centro-Matic Systems have proven themselves foremost in the field of centralized lubrication. Each system consists of a lubricant pump (carefully chosen for the job from a wide range of models) which delivers lubricant through a single supply line to a series of injectors—one for each bearing. Pump can be hand or power operated—the latter with semi or full automatic control. Write for Bulletin 801 or get complete information from your wholesale distributor, or from any of our sales and service offices.



SALES AND SERVICE OFFICES

BOSTON—H. G. Davis, Inc.—Kenmore 5176
BRIDGEPORT—H. G. Davis, Inc.—Bridgeport 5-8160
CHICAGO—Lincoln Engineering Co. of Ill.—Calumet 6022
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DETROIT—Lincoln Engineering Co.—Madison 3484
EAST ORANGE—Lincoln Lubricating Systems, Inc. Orange 3-3188
FORT WORTH—Fritz Keller—2-1345
LOS ANGELES—Lincoln Engineering Co. of Calif. Richmond 0151
MILWAUKEE—Lincoln Equipment Service—Division 1191
NEW YORK—Lincoln Lubricating Systems, Inc. Trafalgar 7-7900
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PORTLAND—Pioneer Equipment Company—Lancaster 0488

- Apply the Right Lubricant
- In the Right Quantity
- At the Right Time

D-48-29

LINCOLN
LINCOLN ENGINEERING COMPANY
Leaders in Lubricating Equipment for a Quarter Century
5701 NATURAL BRIDGE AVE., ST. LOUIS 20, MO.

MISCO *Stainless Steel* CASTINGS

CORROSION RESISTING • HEAT RESISTING • WEAR RESISTING

MISCO produces stainless steel castings in smooth-cast condition without machining, or as finished products machined to a high degree of accuracy. We cast all grades of stainless steel including hardenable types as well as austenitic varieties such as 18-8. There is a Misco grade for every purpose, to withstand corrosion, high temperature and wear. Misco experience covers twenty-seven years continuous production and research in making the finest and best quality stainless steel castings.

We have excellent facilities to serve you. *Let us know your needs.*

Metallurgical and Engineering Data Sheets are available upon request

LARGE AND MEDIUM WEIGHT STAINLESS STEEL CASTINGS • SMALL PRECISION CASTINGS • CENTRIFUGAL CASTINGS

ALLOY CASTING DIVISION
Michigan Steel Casting Company

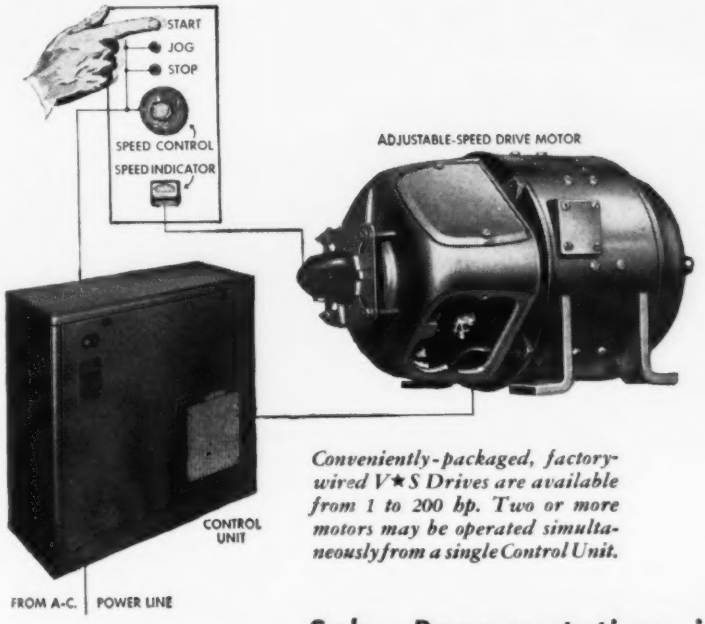
MISCO
Heat and Corrosion Resistant Alloys

One of the World's Pioneer Producers and Distributors of Heat and Corrosion Resisting Alloys

1996 GUOIN STREET • DETROIT 7, MICHIGAN

RELIANCE V★S DRIVE *Proved*

. . . in Industry after Industry!



Conveniently-packaged, factory-wired V★S Drives are available from 1 to 200 hp. Two or more motors may be operated simultaneously from a single Control Unit.

Today, thousands and thousands of Reliance V★S Drives, providing *adjustable speeds from A-c. circuits,* are helping to increase production and reduce costs in every industry. These completely packaged, all-electric drives have become so popular since they were first introduced ten years ago that there is now no important industry where they are not being profitably employed. If you do not yet have the proved time-saving and cost-cutting advantages of Reliance V★S Drive in your plant, it will pay you to investigate further. Write for *new* Bulletin 311!

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RELIANCE ELECTRIC AND ENGINEERING CO.

1086 IVANHOE ROAD • CLEVELAND 10, OHIO

"Motor-Drive for More Than Power"

Bunting Bronze Bars and Standard Bearings are procurable from distributors' stocks in many hundred cities.

The name Bunting long has been synonymous with finest quality. The availability is immediate—from your nearest Bunting Authorized Distributor. Write for Catalog. The Bunting Brass & Bronze Company, Toledo 9, Ohio. Branches in principal cities.

Bunting

43

BRONZE BEARINGS ☆ BUSHINGS ☆ PRECISION BRONZE BARS

"Once the biggest Sugar Beet Plant in the county"

Look at the old place. You'd never guess it was the biggest sugar beet plant in the county at one time. Employed close to a hundred people, too!

Jed Harris owned the plant at that time. I was his bookkeeper in those days. He always said the sugar beet business was here to stay. All you had to do was keep putting all your money into sugar beets. Buy all you could get your hands on, he said.

We kept telling him about money for machinery. Jed said the equipment would last a lifetime, and that we were a bunch of old ladies for worrying.

One day the big crusher flew apart. Then the sugar beet market dropped overnight. Jed went to every bank in the county, but all he got was sympathy. Without money for new equipment, the place never started up after that.

Jed comes here once a year to look at the building. Said if he had another chance he'd worry more about equipment than sugar beets.

Take a look at your last Financial Statement. Do you really have the money that you charged off for Depreciation in the past years? Is it part of your "current" assets . . . or is it earmarked as a separate fund under "fixed" assets?

Write today on your business stationery for your copy of "Good Housekeeping in Business" —a pamphlet which presents what we believe to be a *logical* basis for handling depreciation money. We will be glad to send it to you.

TEXTILE MACHINE WORKS
READING, PENNA.

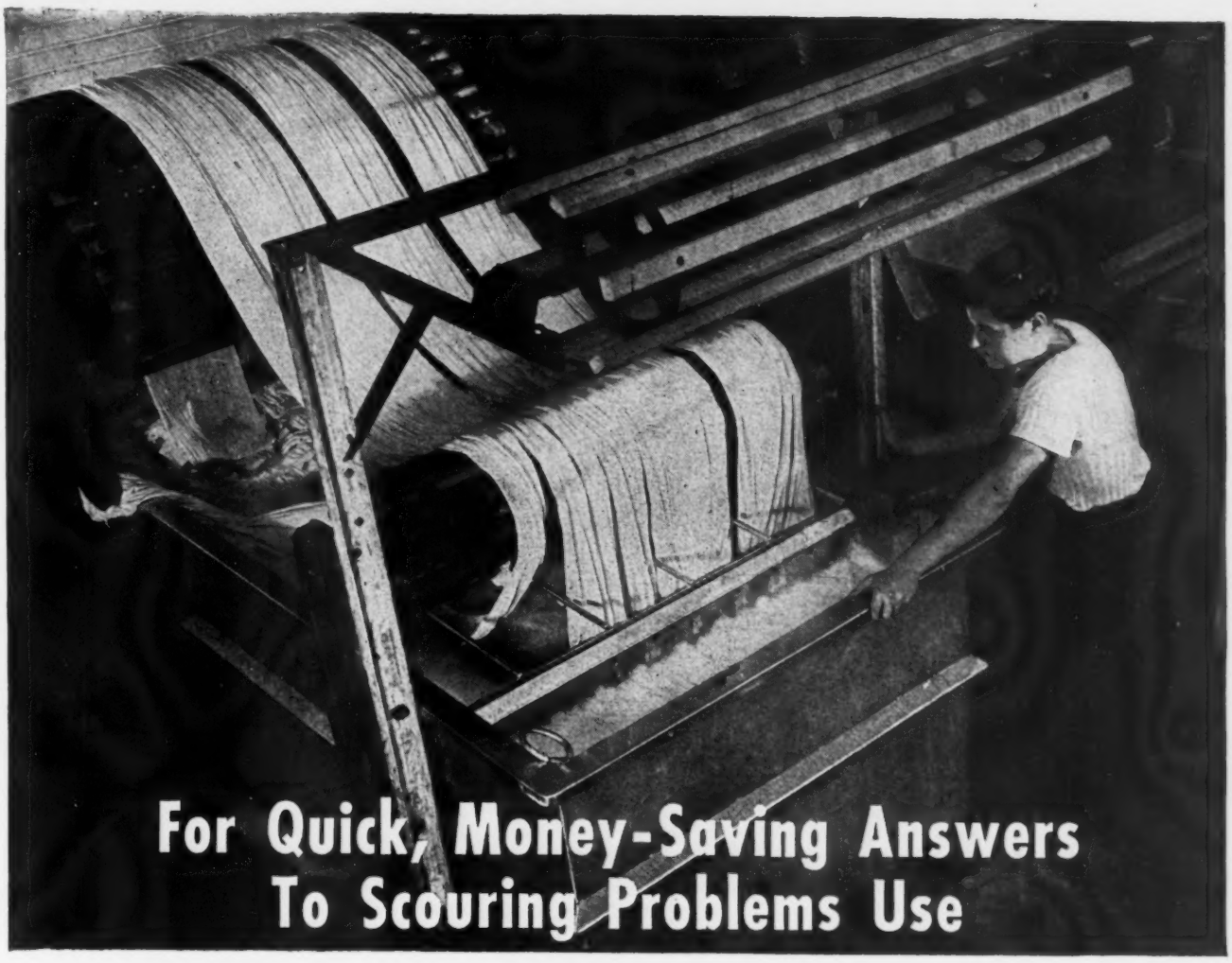
Textile
SPRING-BEARD NEEDLES
For Full Fashioned and Warp Knitting

For uniform length

You're not having an optical illusion when you examine Textile Spring-Beard Needles for uniform length — they all *look* the same because they *are* identically the same true length. It takes painstaking, exacting work to produce this precision product. Each step in the various stages of production is minutely controlled to bring about this scientifically accurate length from butt to beard.

Uniform length is but one of the many advantages you receive because of Textile's rigid controls where only the finest needles qualify. Yes, through unerring controls, Textile Spring-Beard Needles measure out to improved knitting results.

TEXTILE MACHINE WORKS
Reading, Penna.



For Quick, Money-Saving Answers To Scouring Problems Use

ORATOL L-48

A Feature to Remember!

ORATOL L-48 IS COMPLETELY SOLUBLE IN EXTREMELY HARD WATER . . . GIVES HIGH FOAM

The problem in the scouring operation is to condition the goods to obtain even dyeing and level shades, and a fibre properly prepared for later operations.

The powerful detergency . . . rapid scouring action . . . great rinsability . . . and effectiveness of Oratol L-48 in neutral, acid, or alkaline solutions make it logical to expect cleaner goods better prepared for bleaching, dyeing, or printing. This means:

1. **Fewer rejects and redyes**
2. **More level dyeing—less streakiness**
3. **Clean, vibrant colors**
4. **Improved hand**

Other important advantages include more rapid cleansing and rinsing, less water requirement, and a speeding up of production through greater latitude of operation.

Ask our representative for full details on Oratol L-48, or, write today for technical data and generous free sample for testing.

Plants, Branches and Warehouses

Plants: Passaic, Carlstadt, N. J.; Los Angeles, Calif.

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WOLF BRAND PRODUCTS

JACQUES WOLF & CO. *Chemicals* PASSAIC, N. J.

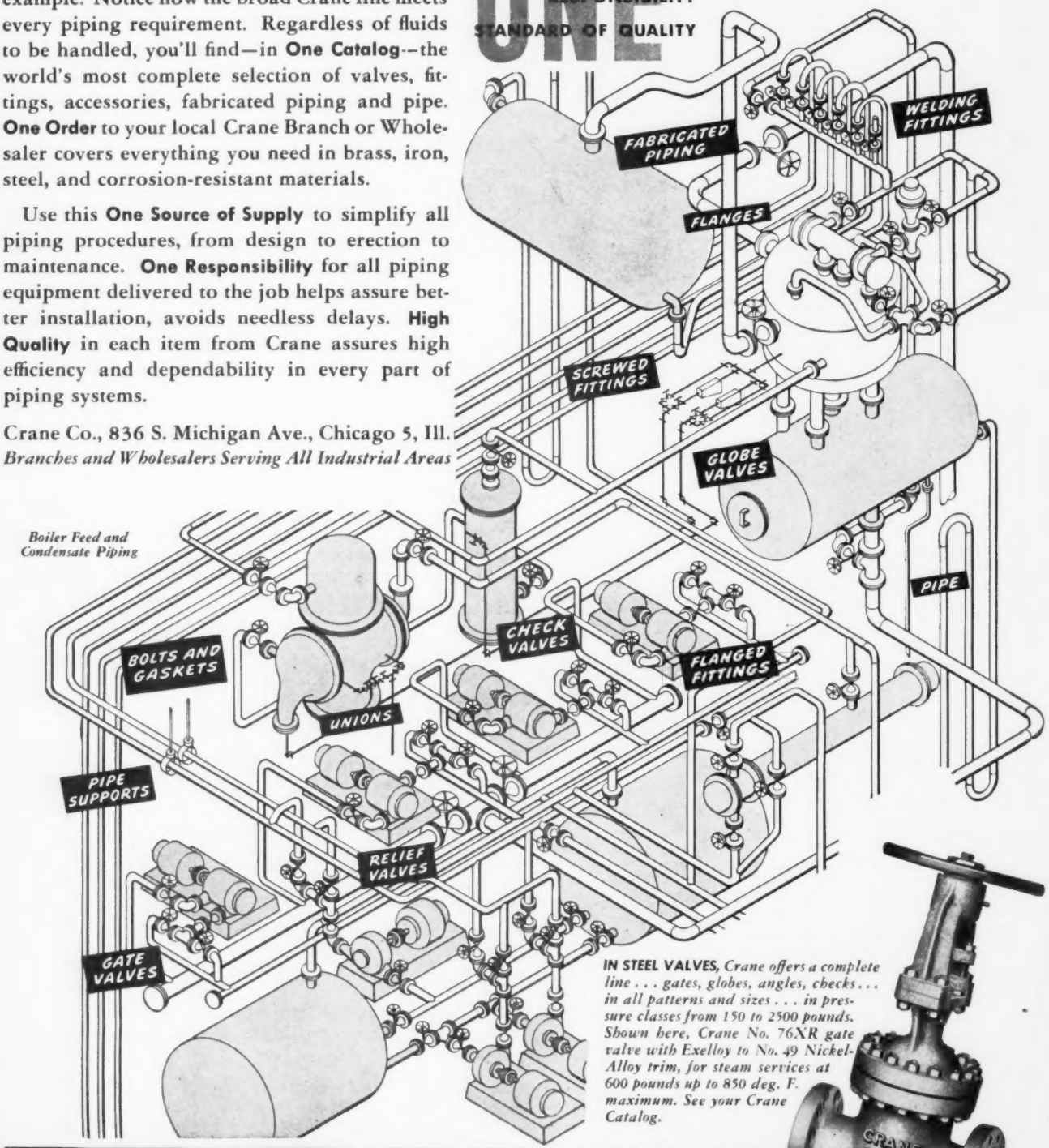
If it's anything in piping...
CRANE has everything you need

Take This Boiler Feed and Condensate System, for example. Notice how the broad Crane line meets every piping requirement. Regardless of fluids to be handled, you'll find—in **One Catalog**--the world's most complete selection of valves, fittings, accessories, fabricated piping and pipe. **One Order** to your local Crane Branch or Wholesaler covers everything you need in brass, iron, steel, and corrosion-resistant materials.

Use this **One Source of Supply** to simplify all piping procedures, from design to erection to maintenance. **One Responsibility** for all piping equipment delivered to the job helps assure better installation, avoids needless delays. **High Quality** in each item from Crane assures high efficiency and dependability in every part of piping systems.

Crane Co., 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

ONE
SOURCE OF SUPPLY
RESPONSIBILITY
STANDARD OF QUALITY



Boiler Feed and Condensate Piping

IN STEEL VALVES, *Crane offers a complete line . . . gates, globes, angles, checks . . . in all patterns and sizes . . . in pressure classes from 150 to 2500 pounds. Shown here, Crane No. 76XR gate valve with Exelloy to No. 49 Nickel-Alloy trim, for steam services at 600 pounds up to 850 deg. F. maximum. See your Crane Catalog.*

EVERYTHING FROM . . .

VALVES • FITTINGS
PIPE • PLUMBING
AND HEATING

CRANE

FOR EVERY PIPING SYSTEM

H&D BOXES

DESIGNED to protect

DESIGNED to display

This corrugated shipping display box is easy to handle in the packing department and provides real product protection in transit. But this is only the beginning. When the box reaches the dealer, it is quickly opened into a colorful, sales producing counter display. It exhibits and merchandises the product at point of purchase and increases sales. For an outstanding sales success consider the H & D Duplex. Consult the H & D Package Laboratory on ALL packaging problems.

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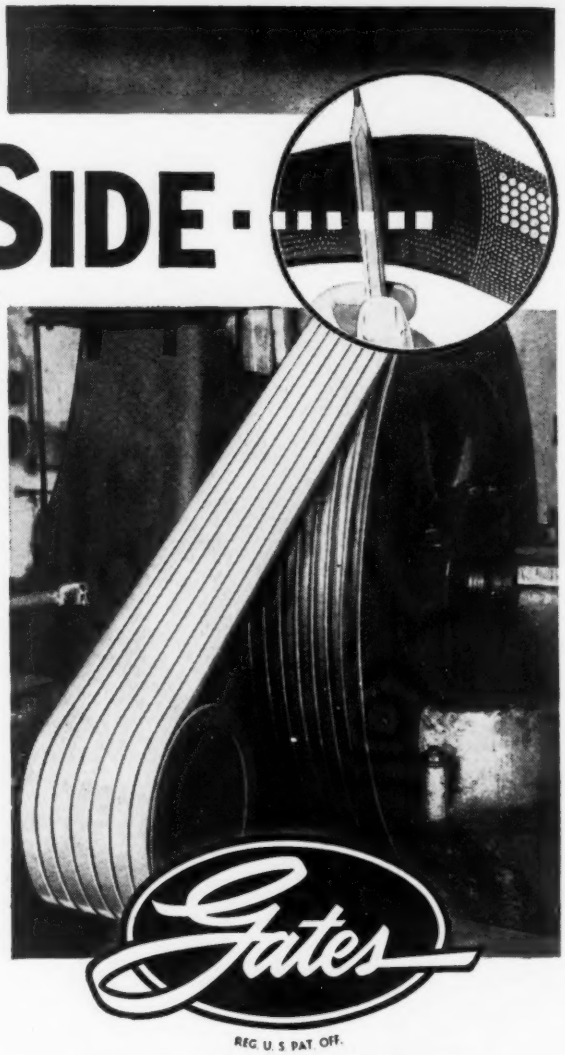
Here is **WHY** *the*

CONCAVE SIDE-

(U.S. PATENT NO. 1813698)



The Mark of SPECIALIZED Research

SAVES You Many DOLLARS In V-BELT Costs!

Every time a V-Belt bends around its pulley, the *top* of the belt is under *tension* and grows *narrower*. The *body* of the belt is *compressed*—causing the *sides* to *bulge out!*

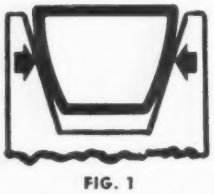


FIG. 1

Because of these stresses, any V-Belt built with straight sides is forced to assume, in the sheave groove, the shape shown in figure 1, on the left.

This forced bulging of a *straight-sided* V-Belt against the sheave groove walls naturally produces excessive wear along the *middle* of the belt's sides—as indicated by the arrows. Also, because the full side of the belt does not *uniformly* grip the pulley, there is a definite loss in drive efficiency.

Now see the difference when you bend the V-Belt that is built with the precisely engineered Concave Side (U. S. Patent No. 1813698)—the Gates Vulco Rope.

FIG. 2

As the Gates Vulco Rope bends, its Concave Side becomes straight (Figure 2). It exactly fits the sheave groove—and this gives you two very definite savings:—

(1) No out-bulge of the sides means uniform side-wall wear—*longer life!*

(2) *Full side-width* grip on the pulley carries heavier loads and sudden load increases without slippage—saving your belts and saving power too!

The Concave Side is MORE IMPORTANT NOW Than Ever Before!

Because the *sides* of a V-Belt are what actually *drive* the pulley, it is clear that any increased load on the belt means a heavier load that must be transmitted to the pulley *directly* through the belt's sidewalls.

Now that Gates SPECIALIZED Research has made available to you *SUPER* Vulco Ropes—carrying fully 40% higher horsepower ratings—the life-prolonging Concave Side naturally delivers greater savings today than ever before.

4810

GATES VULCO ROPE DRIVES

Engineering Offices and Jobber Stocks IN ALL INDUSTRIAL CENTERS of the U. S. and 71 Foreign Countries

THE GATES RUBBER COMPANY
DENVER, U.S.A.
"The World's Largest Makers of V-Belts"

It's *painless* when you call us for STAINLESS

Now you can get all the Stainless Steel you need — right away. All you have to do is contact one of our eleven warehouses—the one nearest you.

For example, No. 2B Finish Sheets: We have sufficient stocks to supply your requirements completely. These are Sheets that have proved their excellence in all kinds of services. And No. 4 Finish Sheets — noted for their uniformly high quality — also are available to fill your needs. Bars — meeting high standards of machinability; Plates — in sizes up to 120″ wide and 360″ long; Tubing — welded and seamless; Pipe, Angles, Channels, Welding Electrodes — in all standard grades and specifications . . . all these are ready for immediate delivery in adequate supply.

And remember, you have complete access to the advice of our engineers in helping you select the grades of U·S·S Stainless best fitted to your particular jobs. Free technical bulletins and booklets — detailing the many and varied uses of U·S·S Stainless — also are supplied on request. And we issue an up-to-date *Inventory Bulletin, once a month, which contains a full listing of our Stainless stocks.

So, when you need Stainless—quickly or for your going needs—just call our nearest warehouse. You'll get action!

**If you use Stainless and are not receiving our monthly Inventory Bulletin, write for it now.*

SYMBOL OF SERVICE for Steel Users

UNITED STATES STEEL SUPPLY COMPANY — USS STEELS — SERVICE

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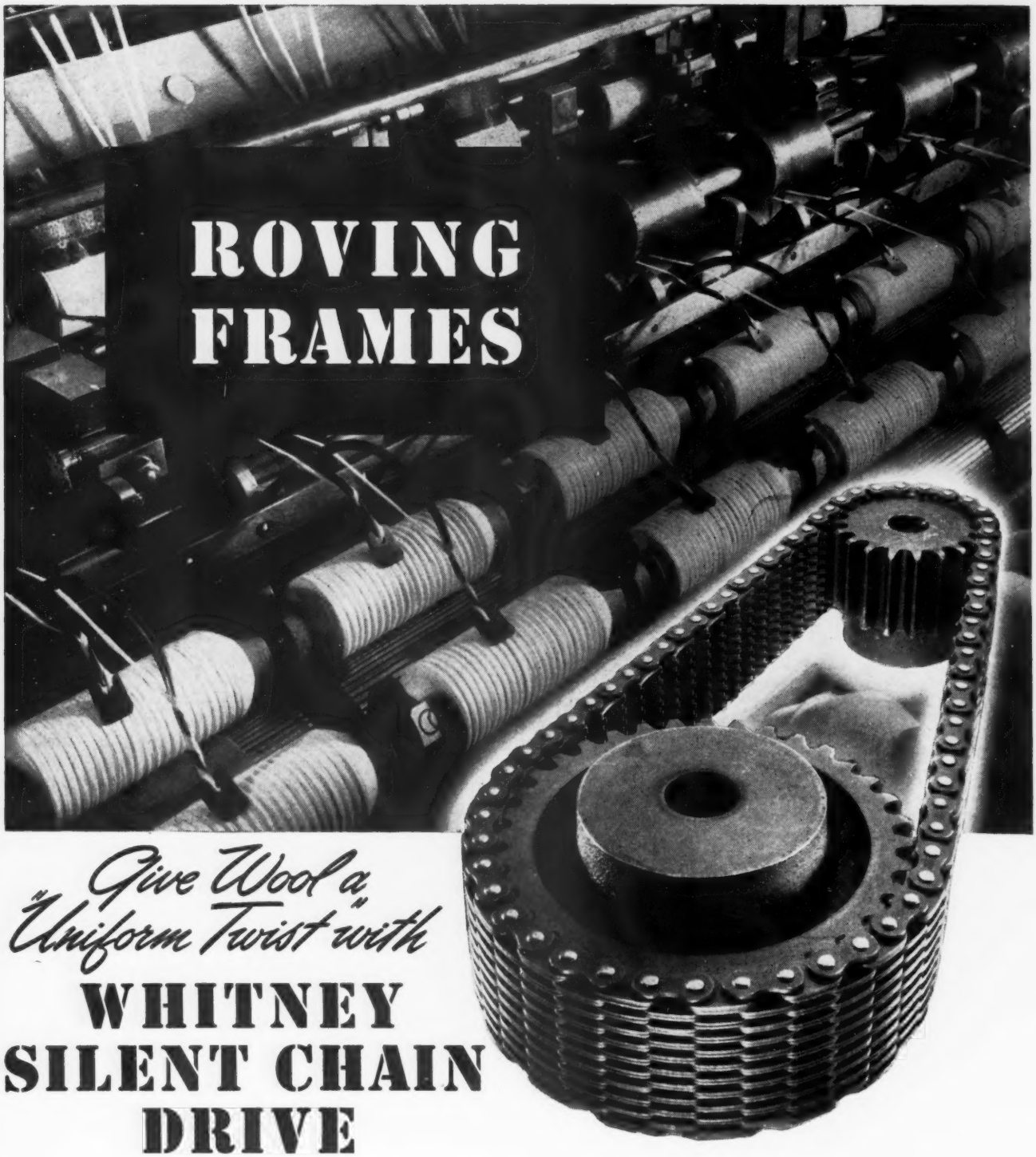
UNITED STATES STEEL



Give Wool a "Uniform Twist" with

WHITNEY SILENT CHAIN DRIVE

Smooth, uniform power transmission is a must in giving certain types of yarn the right twist. And the surest way to maintain product uniformity is to use Whitney Silent Chain Drives on roving frames.

The *positive* grip of Whitney Chains transmits constant motor speed. These chains deliver full power without friction loss or slippage from power source to driven mechanisms. In addition, Whitney Chains absorb shock loads without breakage . . . are easy to install . . . give long lived service with minimum maintenance.

As a manufacturer of textile machinery, you can add to product reputation and customer satisfaction by incorporating Whitney Chains in your designs. Or if you are a textile product producer, Whitney Chain Drives will help you maintain product uniformity and reduce costs with their long operating life. Manufacturer or producer—it will pay you to *standardize* on Whitney Chain and accurately Cut Tooth Sprockets . . . the *all steel drives.* Write for information.

Whitney Chain & Mfg. Company
DIVISION OF WHITNEY-HANSON INDUSTRIES, INC.
211 Hamilton Street, Hartford 2, Conn.

A Knitting Star . . .

STANDARD Durene*

smooth–strong–uniform wins you speedier quality production . . . and more repeat counter calls

You can keep your machines at top production for longer stretches without loss of quality when you run STANDARD Durene.* Its smoothness, strength and uniformity knit more attractive, more comfortable, longer wearing garments . . . the kind that wins reorders everywhere.

STANDARD Durene* is a superior mercerized combed cotton yarn made in our own mills with every step of its processing under our rigid controls. These controls, the products of over seventy years' experience in cotton yarn manufacturing and our continuing modern research program, keep STANDARD Durene* at peak quality performance.

Increase your quality production, as other leading knitters do, with STANDARD Durene.* Specify it on your next job.

*REG. U.S. PAT. OFF.

Made of Durene multi-ply mercerized combed cotton yarn
4 WAYS BETTER than ordinary cotton yarns
EXTRA COMFORT ---more absorbent
EXTRA STRENGTH ---longer wear
EXTRA QUALITY ---lasting lustre
EXTRA SERVICE ---easy to wash

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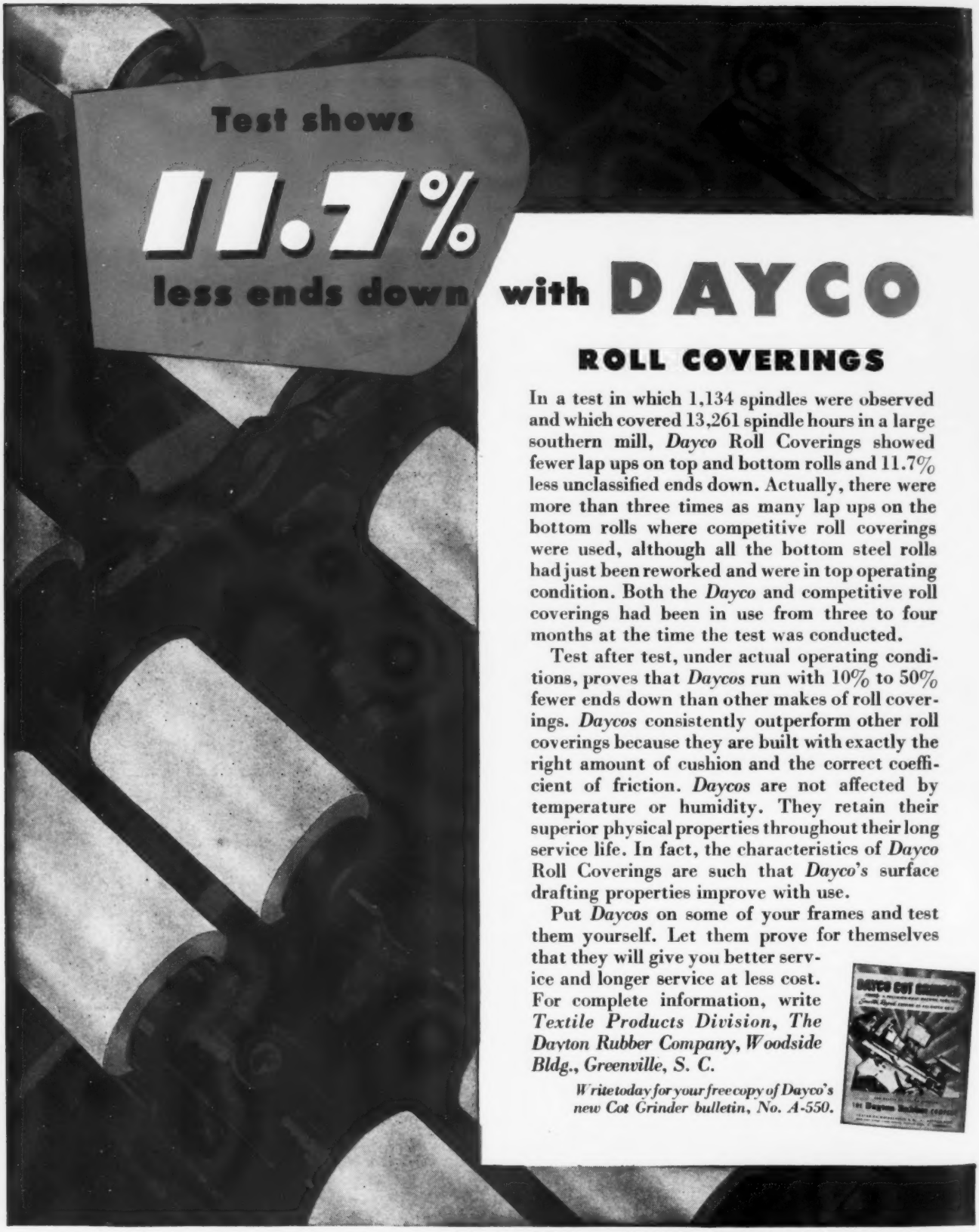
REPRESENTATIVES IN CENTRAL AND SOUTH AMERICAN COUNTRIES



with DAYCO

ROLL COVERINGS

In a test in which 1,134 spindles were observed and which covered 13,261 spindle hours in a large southern mill, *Dayco* Roll Coverings showed fewer lap ups on top and bottom rolls and 11.7% less unclassified ends down. Actually, there were more than three times as many lap ups on the bottom rolls where competitive roll coverings were used, although all the bottom steel rolls had just been reworked and were in top operating condition. Both the *Dayco* and competitive roll coverings had been in use from three to four months at the time the test was conducted.

Test after test, under actual operating conditions, proves that *Daycos* run with 10% to 50% fewer ends down than other makes of roll coverings. *Daycos* consistently outperform other roll coverings because they are built with exactly the right amount of cushion and the correct coefficient of friction. *Daycos* are not affected by temperature or humidity. They retain their superior physical properties throughout their long service life. In fact, the characteristics of *Dayco* Roll Coverings are such that *Dayco's* surface drafting properties improve with use.

Put *Daycos* on some of your frames and test them yourself. Let them prove for themselves that they will give you better service and longer service at less cost. For complete information, write *Textile Products Division, The Dayton Rubber Company, Woodside Bldg., Greenville, S. C.*

Write today for your free copy of Dayco's new Cot Grinder bulletin, No. A-550.

Dayton Rubber

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

"A significant advance in textile human relations"—see page 4 . . . . . .

Interest is keen as the scenes of Burlington's "attitude-building" film unfold on the screen.

BURLINGTON MILLS' FILM
Stresses Worker Importance

HIGHLIGHTS: *Attitude-building movie, "Fabric of Our Lives," tells of strength and scope of company—Importance of quality work to firm's future and workers' own jobs is emphasized—Film also useful in community relations and sales promotion—Workers' reactions highly favorable.*

By WILLIAM A. NEWELL
Assistant Editor, TEXTILE WORLD

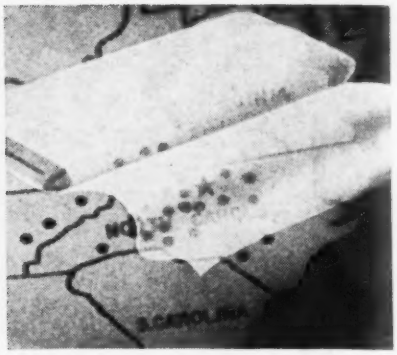
WHAT THE EMPLOYEE MEANS to Burlington Mills and what Burlington Mills means to its employees is the theme of an attitude-building film recently produced by Burlington Mills Corp. The film, "Fabric of Our Lives," shows employees the scope of the company's production and presents a convincing explanation of how and why the individual worker plays an important part in production.

Burlington Mills, being a large, decentralized organization producing many products in many communities, has always been faced with the problem of keeping employees aware of the basic strength and the diversity of the company. The purpose of the movie is to give Burlington employees a better appreciation of their company's widespread operations and interests, their company's recognition of the contributions of its employees, and to create a sense of pride among employees in being associated with such an enterprise as Burlington.

THE METHOD. Scenes at various Burlington Mills show and explain how each of the company's products is made—filament and spun-rayon fabrics, cotton goods, tricot cloth, circular and full-fashioned hosiery, and

JOBS IN BURLINGTON MILLS ARE RESULT OF THE FREE-ENTERPRISE SYSTEM

"Free enterprise simply means you can make anything you think you can sell. If enough people buy it, you're in business. We made a better product—we sold it for less."

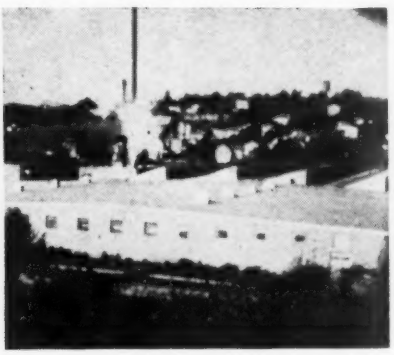


"If you make it better and price it lower, your business grows. That was the simple idea on which Burlington Mills was founded. Our volume of fabric has multiplied 100 times."

The film puts the meaning of free enterprise in simple terms—tells why workers' jobs resulted from it, depend on it.

BURLINGTON'S STRUCTURE PROVIDES BIG-COMPANY STRENGTH WITH SMALL-COMPANY FRIENDLINESS

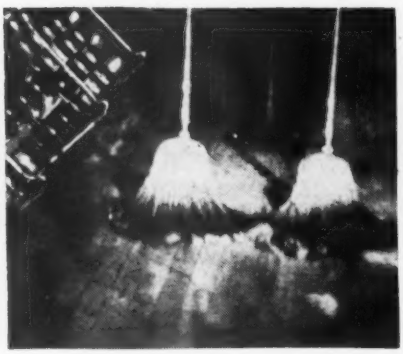
"Advantages that come with working for a strong company are insurance policies, mail-order service, recreation programs, loans for education, opportunities for advancement."



"Most of our plants are in small towns. When Burlington Mills comes into a community it brings a clean, modern plant, steady jobs, a substantial payroll, and a responsibility to its employees and to the community."

Why and how big industry is beneficial yet can be decentralized and conducted like small industry is explained.

THOUSANDS OF PEOPLE COMBINE VARIED SKILLS TO PRODUCE THE FABRICS



"It takes a lot of people working at hundreds of different jobs to make our products. Our policy of promotion from within means there's no limit to how far we can go."

"The vision, initiative, and leadership of the management group have guided our company to its present important position. These men plan for the security of our jobs."

Workers are shown the size and scope of Burlington's activities—how thousands of employees and skills are needed to make its products—how diversified production means steadier production.

THE FILM'S STRONG, SIMPLE THEME

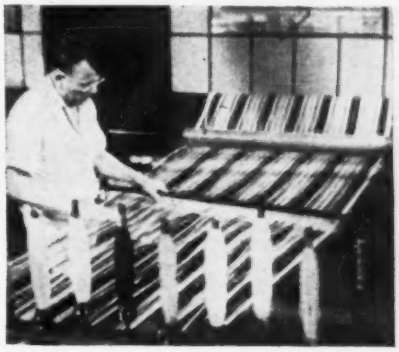
FABRICS BURLINGTON PEOPLE PRODUCE ARE WOVEN INTO THE LIFE OF AMERICA

"It takes the skills of many people to bring the yarn to the weave room—the skills of many more when gray goods come off the loom." Filament-rayon fabric production is outlined.

"We can all take pride in the fine quality of the fabrics. Here are some that many of us have helped create—rayon satins and a boudoir coat for a tiny consumer."

The innate creative urge of people is stimulated by showing the worker how fabrics are made —what the purpose of his job is, how his efforts are used in society.

BURLINGTON'S DIVERSIFIED PRODUCTION ASSURES STEADY OPERATION OF MILLS, MAKING ALL JOBS MORE SECURE



"As we watch colorful ginghams take form, it's good to know that our management has knowledge of the old tried and true materials as well as the vision that develops new ones."

Touched on are preparation, manufacture, and finishing of filament and spun rayons, cottons, blends, tricot, decorative fabrics, narrow fabrics, women's hosiery, and half hose.

Recognition that effort of every worker is important in Burlington's production picture and in American life is accomplished by manufacturing and end-use views of every product.

EVERY STEP MUST BE RIGHT—BETTER QUALITY MEANS STEADIER JOBS

"Every product gets critical attention from the consumer. The care that this man puts into his job is important to all of us. Fewer defects means public confidence in our products."

"The story of the quiller—the creeler—the knitter—is our story—the story of the people of Burlington Mills. We weave the pleasure that our fabrics bring."

Logic that workers can control their own destinies is presented—steady jobs for all depend on steady individual effort.

TYPICAL EMPLOYEE COMMENTS SHOW EXCELLENT REACTION

***Views are exchanged** by workers after seeing picture in local theatre. Some comments are given below.*

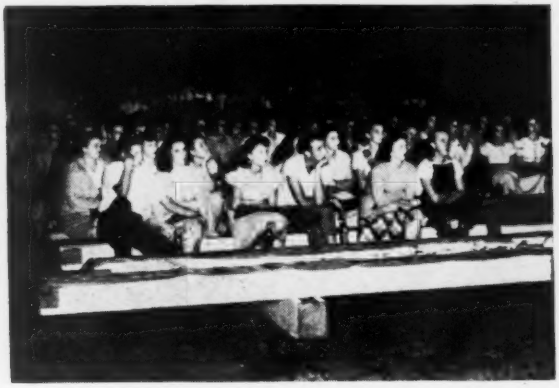
"Something similar more often would make employees enjoy their jobs more."

"Anyone that works for Burlington Mills and missed this movie missed a lot."

"I think this film should help us to do a better job, also to appreciate the importance and worth of our job, not only to the company but also to ourselves."

"I like the feeling that the movie leaves—that everyone is important and really needed and that each job is valuable no matter how small."

"I was impressed with the different types of machinery and to know that the company takes interest enough in its employees to let them know what is being made by Burlington Mills."



***Close attention** to the film can be seen in employees' faces as they view the film outdoors.*

"I was impressed with the consideration that was shown in making us see that every job was important. I also enjoyed the beauty of the material shown and feel that I am more obligated to try and do my job at the best of my ability."

"The vast size of the company makes you feel a little distinguished or outstanding when you talk with people of other companies. You feel more secure in the future of your job and for your means of living."

"It's the only way many of us will ever have of knowing what the company we are working for really is."

"It is a good feeling to work for a company that goes to the expense and trouble that 'Bur-Mil' does to get information to its people."

narrow fabrics. Each employee is helped to appreciate the work of other divisions while taking pride in his own. Each of Burlington's 30,000 workers is shown that he has an important stake in the profitable operation of the plant, regardless of which of the widely varied jobs he fills.

A secondary purpose of the film is to provide a valuable community- and public-relations tool. It was so planned as to be readily adaptable for showings before civic clubs, schools, and club groups. It is also planned for use in sales promotion.

Showings of the film have been scheduled as follows: (1) previews for executive personnel; (2) special showings for all supervisory personnel at each plant, followed by discussion and planning for employee showings; and (3) group showings for all present employees. The showings to workers are usually held around shift-change time—the shift going on duty is invited to come early for the first showing—the shift coming off sees the film after leaving the job.

In some instances, the movie is being shown during working hours. Employees are invited, not ordered, to come. Location of showings varies with local conditions—theaters, conference rooms, churches, and in the open-air on plant grounds. In some cases, light refreshments are served after the movie. When all present employees have seen the film, it will be released to civic groups, schools, etc. Finally, new employees will be invited to a showing of the movie some time during the first 60 days of employment. In this way, the movie will also serve as an induction aid.

EMPLOYEE REACTION. The reaction of employees has been highly favorable. Questionnaire answers reveal that the film is doing its job as well as or better than expected, and that the majority of employees have caught the spirit of what the company is trying to put across. Many comments were along the lines of "more of the same," that is, a longer movie, another movie, show it to our families [the company expects to], etc.

At all showings to employees, a questionnaire is given out on which employee reaction can be recorded. The questionnaire, besides asking for comments, asked the following definite questions: (The answers shown are from reports by two typical plants —a large weaving mill and a small hosiery plant).

1. Did you enjoy the movie?
   Plant A: a lot – 98%, a little—2%, No—0
   Plant B: a lot – 95%, a little—5%, No—0
2. Did you learn anything about the company you did not know before?
   Plant A: a lot – 86%, a little—14%, No—0
   Plant B: a lot – 90%, a little—10%, No—0
3. Did seeing the movie make you feel your job is more important to the company?
   Plant A: a lot – 85%, a little —13%, No—2%
   Plant B: a lot – 80%, a little —17%, No—3%

Since the company has just started to show the movie to present employees and has not yet instituted civic group showings, it is difficult to judge the full extent of its eventual value. However, the company states that on the basis of showings that have been made and the reaction to them, it is quite apparent that the expense and trouble involved in the screening of this picture will be repaid with interest.

The 16-mm., sound, color film runs 31 min., and was produced by Films For Industry, Inc., New York, N. Y.

MACHINE PICKING, at present, also picks leaves and other trash, although this cotton has been defoliated. This type of picking will probably lead to breeding varieties of cotton that have coarse fibers and smooth leaves.

DELFOS VARIETY (not included in the table
cotton breeder and an expert on varieties f
Cottons for specific uses are visioned. New var
fiber to mix with wool for blankets; and a co
asbestos.

COTTON VARIETIES
Are Growing in Importance

HIGHLIGHTS: *Mill buying by name now accounts for 12% of the cotton bought — Acala 4-42, a new type — Eight varieties account for more than 80% of U. S. cotton — Machine picking may change cotton character.*

By P. M. THOMAS, *Associate Editor, TEXTILE WORLD*

THE IMPORTANCE of cotton variety is being recognized more and more by mills. Approximately 12% (about 640,000 500-lb. bales) of the cotton now bought by mills is bought by variety. Variety identification is used by these mills to supplement grade and staple-length classification.

The cotton-fiber table presented here is intended as a quick means for comparing the characteristics and manufacturing performance of the eight leading varieties of cotton.

For many years, cotton breeders were primarily interested in developing varieties of cotton that would produce more. Now, the requirements of a cotton are twofold: (1) to produce well and (2) to spin well in the mills. Four agencies cooperate to produce cotton that will meet these requirements: cotton breeders, U. S. Dept. of Agriculture, State agricultural experiment stations, and mills.

Cotton breeding is no longer a disorganized, hit-or-miss business. It is a scientific business. Its aim is develop better strains of cotton, a breeders know how to go about doi it.

An example of the new method work is the development of a n variety, such as Acala 4-42 which b came a commercially important vari only this year.

Acala 4-42 is grown in Californ under irrigation. For many years, was thought that irrigation itself p duced a neppy cotton, but when var ties of cotton grown under irrigati were planted in rain-growth areas, t excessive neppiness remained. Breed then set about improving the varieti

Acala 4-42 was developed fr Acala 1517. In 1947, about 7,000 8,000 acres was planted in the n strain in California. In 1948, the ac age was increased to 100,000. In 19 Acala 4-42 will entirely replace t old strain of Shafter Acala in C ifornia.

Acala 1517 averages 1⅛ in. length. It is a fairly fine fiber, has hi tensile strength, and is neppy (hi percentage of immature fibers). produces well in New Mexico. Becau of a strong demand for its streng it will continue to be grown in N Mexico.

Acala 4-42 is shorter than the 15 strain (it averages only 1 1/16 in. but it retains most of the high tens strength. It is coarser, less neppy, a produces better on the low elevatio of California.

Another region in which an i proved variety can be anticipated is t Southwest. The predominant variety

Reprints of this table will be available, as long as the supply lasts, at 25¢ each or 15¢ each for 20 or more. Send requests to: TEXTILE WORLD, 330 West 42nd Street, New York 18, N. Y.

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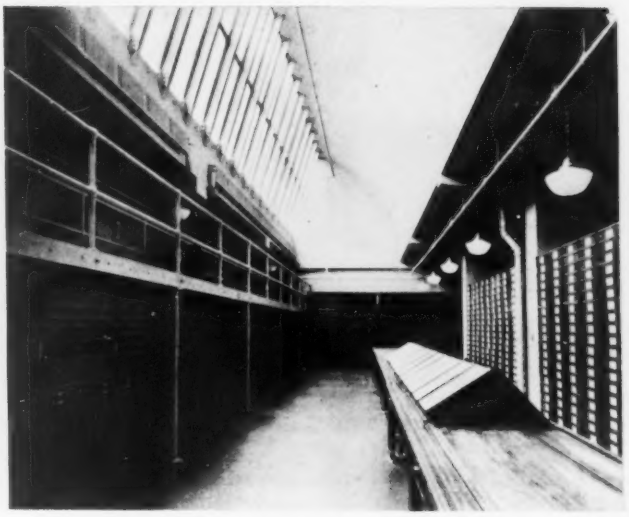
DELFOS VARIETY (not included in the table of varieties) is studied by a cotton breeder and an expert on varieties for good and bad qualities. Cottons for specific uses are visioned. New varieties needed include: coarse fiber to mix with wool for blankets; and a coarse, long fiber to spin with asbestos.



A STANDARD COTTON-CLASSING ROOM admits light only from the northern sky. Boxes of official standard grades of cotton are on the classing table.

is a scientific business. Its aim is to develop better strains of cotton, and breeders know how to go about doing it.

An example of the new method at work is the development of a new variety, such as Acala 4-42 which became a commercially important variety only this year.

Acala 4-42 is grown in California under irrigation. For many years, it was thought that irrigation itself produced a neppy cotton; but when varieties of cotton grown under irrigation were planted in rain-growth areas, the excessive neppiness remained. Breeders then set about improving the varieties.

Acala 4-42 was developed from Acala 1517. In 1947, about 7,000 or 8,000 acres was planted in the new strain in California. In 1948, the acreage was increased to 100,000. In 1949, Acala 4-42 will entirely replace the old strain of Shafter Acala in California.

Acala 1517 averages 1⅛ in. in length. It is a fairly fine fiber, has high tensile strength, and is neppy (high percentage of immature fibers). It produces well in New Mexico. Because of a strong demand for its strength, it will continue to be grown in New Mexico.

Acala 4-42 is shorter than the 1517 strain (it averages only 1 1/16 in.), but it retains most of the high tensile strength. It is coarser, less neppy, and produces better on the low elevations of California.

Another region in which an improved variety can be anticipated is the Southwest. The predominant variety in that region now is a very short-staple (about 13/16-in.) cotton that has fairly poor spinning qualities. Experiments are being made on a new strain that averages ⅞ in. in length and has better spinning qualities.

Not enough work has been done on the new strain, but further improvement is expected.

The yardsticks used for measuring variety improvement are: (1) yield, (2) economy, (3) spinnability.

Nearly all the eight varieties used in the table have been improved during the last ten years. One of the three most important varieties produced in the United States was a high-yield cotton but had relatively poor spinning qualities. The present program of improvement has retained the high yield and tremendously improved spinning qualities.

WHY THESE VARIETIES. The eight varieties shown in the table were selected because of their commercial importance. They account for about 80% of the cotton grown in the United States.

Deltapine, Stoneville 2B, and Coker 100 strains account for more than 50% of the cotton crop. From the standpoint of volume of production and use, these three are the most important varieties grown.

There are, of course, other important varieties. A good example is Wilds—the most widely grown long-staple cotton. Only 15,000 to 20,000 acres was planted in 1948. In commercial volume, it does not compare with the varieties shown in the table.

Wilds is used almost entirely by combed-yarn mills, but other varieties are used in greater volume. The varieties most important to combed-yarn mills are Stoneville 2B and Coker 100. Deltapine is also used extensively.

The cotton-growing states are grouped in well-defined regions by the Dept. of Agriculture and other interested agencies. Generally, these regions are defined because of different growth conditions (soil, climate, altitude, etc.).

The grouping used in the table is the same as that used by the Department of Agriculture. The regions of growth are defined as follows:

Southeast Region
- Alabama
- Florida
- Georgia
- North Carolina
- South Carolina
- Virginia

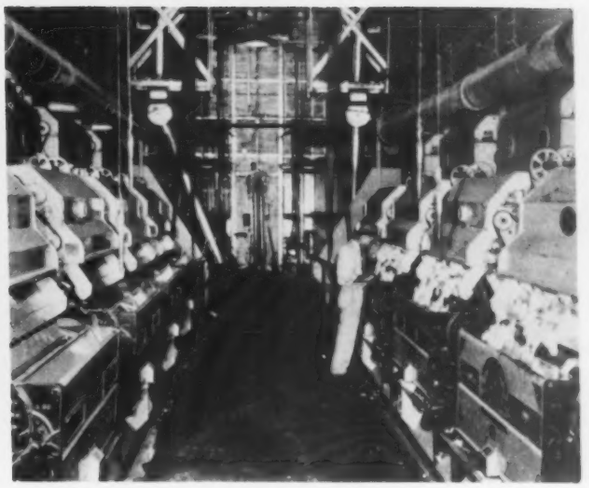
Mid-South Region
- Arkansas
- Louisiana
- Mississippi
- Missouri
- Tennessee

Southwest Region
- Oklahoma
- Texas

Far-West Region
- Arizona
- California
- New Mexico

Data were limited to 1946 and 1947 because the full significance of variety and area of growth is reflected in tests

BOXES OF STANDARDS are made up by Dept. of Agriculture and shipped to domestic and foreign mills and markets. These standards are found wherever American Upland cotton is sold and used.



GINNING also causes variation in cotton. The up-to-date gin shown here is equipped with vertical dryers, pure-seed small-pipe system, trash incinerator, and special piping and fan arrangement.

FINENESS OF THESE FIBERS ranges fro coarse to fine. Magnification is 300. Fib 5/8-in. Garo Hill variety; B is a 1 3/8-in ican Upland cotton; C is 1 3/4-in. Sea Is

run on these crops. With the 1946 crop, cotton-improvement groups were selected that were growing certain varieties in certain areas. This method of selecting test samples gives a truer picture of variety, area, and commercial importance.

FIBER PROPERTIES. Only a range of values is given in the table. For example: In the various tests run on the 1946 crop of Deltapine in the Southeast Region, the lowest-grade sample was Strict Low Middling. The highest grade was Middling. In the table, the range of grades given is "SLM to M."

Where only one value is given (as "SLM"), only one lot of cotton was tested. If only two lots were tested, the values are joined by "and" (as, "SLM and M").

Non-lint content is the percentage of trash, dust, motes, etc., removed from the cotton by the Shirley tester.

Yarn numbers spun range from 14s to 60s. Wherever the character of the cotton permitted, a coarse, medium, and fine yarn were spun.

OUTSIDE FACTORS. It is well understood that several conditions of growth affect cotton. Besides variety, area of growth and season are also very important.

Generally, the characteristics of these eight varieties will vary in the same manner in response to conditions outside of the cotton. If Deltapine in the Southeast is good in a certain year, Stoneville 2B and Coker 100 very likely will be good also.

The ranges of values given in the table are not fixed for any variety. A new crop of cotton may have different ranges. An isolated sample of 1946 or 1947 cotton may or may not fall within the ranges given.

The variableness of cotton properties is almost entirely due to factors other than variety. Some of these factors (area of growth and season excepted) are:

1. *Time of picking.* There is a big difference in the quality of cotton picked early in the season and late in the season. In some instances, this difference may be as great as the difference between varieties or between crop years. The third picking of the season is about as inferior to the second picking as the second is to the first.

No commercial distinction is made between early-season, midseason, and late-season pickings. Some of the differences are made up in the classification of the cotton; the later picking is usually somewhat lower in grade than the early picking. But spinnability is not always accounted for by grade and staple length.

2. *Exposure.* That cotton deteriorates from exposure in the field is well known. As in the case of time of picking, classing penalizes the cotton for some of the damage. But exposure can cause a cotton sample to fall outside the ranges given for that variety.

3. *Method of picking.* The cottons tested were all hand picked. This, of course, is the best method (from the standpoint of cotton quality) of harvesting. A hand-snapped or machine-picked cotton might have a somewhat different range of values from those given in the table.

4. *Moisture content.* The amount of moisture in cotton when it is opened by the mill is an important factor. Irrigated cotton, of course, usually has about 2 to 3% less water in it than rain-grown cotton. It is ginned in an extremely dry climate, and most commercial gins are not equipped for increasing the moisture content.

Frequently, such cotton has as low as 4% moisture content when it reaches the mill. Manufacturing performance may be different from the performance shown in the table.

5. *Ginning.* Three conditions of ginning have an influence on cotton:

a. Moisture and trash content of cotton brought to the gin.

b. The physical equipment of the gin. (This includes both cleaning and conditioning equipment.)

c. The skill with which the gin is operated. Generally, the gins that prepared the cottons tested were very good.

6. *Baling.* Of course the manufacturing performance of compressed cotton is different from that of flat-bale cotton. The two cottons draft differently. The difference is particularly true of high-density compressed cotton baled for shipment by water.

FARM MECHANIZATION. Mechanical picking is expected to affect the character of short-staple cottons. The tendency will be toward coarser fibers that can be cleaned easily.

The trend will be a development; not a change. It will not come about, for example, by planting Rowd Hibred (both coarse-fiber cotto the Southeast Region to replace pine and Stoneville 2B (both fine-fiber cottons). It will come by developing the qualities desi the cottons already successful in regions. There undoubtedly w new varieties, but they will b growths of present varieties those now commercially import those now commercially unimpo

The problem will be to d fiber coarseness at no exper spinning quality. The develo will be slow. Usually, six to te is required to develop a stab proved strain.

Another desirable characteris cotton to be machine picked is leaves. Most cottons now grow hairy leaves that cling to the lir spindle-type picker now a strips some of the leaves from defoliated plant as it does the Cleaner machine picking co done on smooth-leaf cotton.

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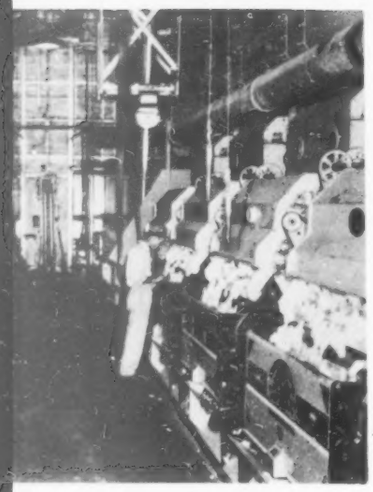

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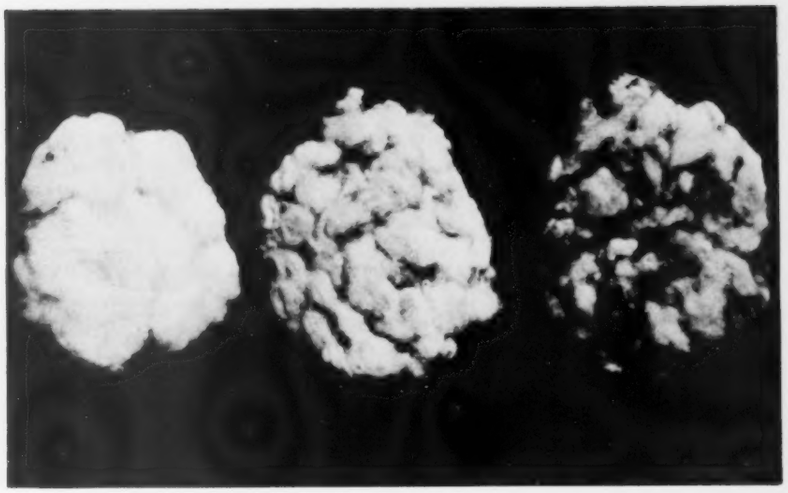
FINENESS OF THESE FIBERS ranges from very coarse to fine. Magnification is 300. Fiber **A** is 5/8-in. Garo Hill variety; **B** is a 1 3/8-in. American Upland cotton; **C** is 1 3/4-in. Sea Island.



TIME OF PICKING cotton has a decided effect on it. Grade and color are particularly affected. These samples were picked from the same field: *left*, in September; *middle*, in December; *right*, in March.

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The problem will be to develop fiber coarseness at no expense of spinning quality. The development will be slow. Usually, six to ten years is required to develop a stable, improved strain.

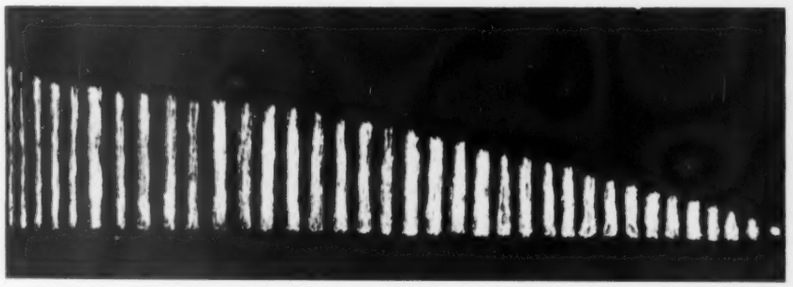
Another desirable characteristic for cotton to be machine picked is smooth leaves. Most cottons now grown have hairy leaves that cling to the lint. The spindle-type picker now available strips some of the leaves from an undefoliated plant as it does the cotton. Cleaner machine picking could be done on smooth-leaf cotton.

Mechanical picking (with the equipment now available) probably will not be used on Wilds and other long-staple varieties. Lack of cleanliness is the drawback. The long, fine fibers are damaged too much by the gin and by the mill-cleaning necessary for machine-picked cotton.

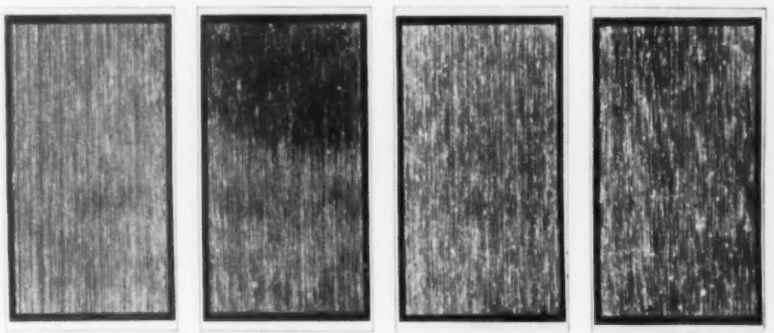
Other farm mechanization (besides picking) has no effect on the cotton fiber. Defoliation, if not timed and used properly, can be damaging. The problem is to apply the defoliating agent to the leaves of the cotton stalk at a time when it will not damage boll development. If it is applied too early, the boll will be arrested in its growth.

Flame weeding will not affect the fiber. If it is done improperly, the whole plant dies.

Some of the burden of cleaning machine-picked cotton can be, and is being, absorbed by gins. Much of it, though, passes on to the mills. When farm mechanization becomes widespread, better gins will become more numerous.



THIS FIBER ARRAY shows the range of fiber lengths in a sample of 1 5/32-in. cotton. The range is from 1 5/8 in. to less than 1/8 in.



YARN-APPEARANCE STANDARDS are made up and photographed. Mills use these standards for comparing their own yarn for appearance grades.

Photographs obtained from U.S. Dept. of Agriculture

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How NEW PARITY BASIS Will Affect Cotton Price

HIGHLIGHTS: *Parity price will be about 13% lower in 1950 — Support price will range from 60 to 90% of parity — Cotton Congressmen will fight this program — Mills may get cheaper cotton; inflation could be the "joker."*

By DONALD LOOMIS
McGraw-Hill Washington Bureau

THE NEW GOVERNMENT price support for cotton, already enacted into law, is going to be fought over bitterly in the Congress scheduled to meet in January, 1949. The outcome of the fight could have a considerable bearing on the price of cotton to textile mills—besides its important impact on the economy as a whole.

Congress passed a two-part price-support bill just before it adjourned last June. One part is a stop-gap measure, which continues for another year the extension of wartime price supports. The other part is actually the price-support section of a long-range, permanent price-support program for agricultural products which was passed by the Senate.

Just before Congress adjourned, these two price-support theories clashed head-on. Both the House and the Senate farm leaders knew it was politically unwise to fail to pass some sort of price-support bill. The House stood fast for its temporary measure and would have no part of the Senate bill. The Senate would not take the House bill; it said it had to be the Senate bill or nothing.

BOTH MEASURES PASS. Under pressure, the House-Senate conferees in the last days of the Congress passed both measures. The House version was made effective during 1949; the Senate version becomes effective in 1950.

House cotton Congressmen and other farm-bloc spokesmen finally accepted this compromise; but they stated openly that they did so only because there was no time to amend and change the 1950 part of the law.

What these Congressmen hope to do, of course, is to get higher and more rigid price supports for the crops their constituents raise. This will be the central issue in the Congressional fight that begins this January.

Following are some facts and figures that will give an idea of what the shooting and shouting is about.

Take parity as a starting point.

Parity is a standard which says that the farmer's income (measured by the prices he gets for what he sells) should be equivalent to the prices the farmer pays for what he has to buy. The period of 1910-1914 is the "base period." It was selected as a period during which the farmer was getting a fair share of the nation's goods and services. It has been used as the base period for several years.

[This is the way cotton parity works: At the beginning of the crop year, the prices the cotton farmer must pay for the things he buys are determined. This price level is compared with the price level in 1910-1914. Suppose the price level is three times as high as it was in that base period. Parity would require that the price of cotton be three times as high as it was in 1910-1914.

[Actually, the 1948 parity price (fixed at the beginning of the crop year) is about 32½¢ a lb.]

1948, 1949 SUPPORT. At present (for the 1948 crop), the government is required to support the price of cotton at 92½% of parity. This means 92½% of approximately 32½¢ per lb., which amounts to about 30¢ per lb.

For the 1949 crop, the government price support will drop to 90% of parity. Of course, a new parity price of cotton will be determined at the beginning of the 1949 crop year. The actual support price will depend on what that parity price is.

These two provisions (92½% of parity for 1948, and 90% of parity for 1949) is the House-sponsored part of the new farm bill.

Now the Senate-sponsored part of the bill:

During 1950 (and from then on), the government will support the price of cotton; but the support level will be lower than heretofore. Continued inflation may keep the price up, or even raise it. But the mechanics of support level provide lower support for identical conditions.

The new law (the Senate version) completely revamps the price-support program. It gives cotton a new formula for computing parity price, and it drops the percentage of parity support.

The real bump for the cotton grower—and, indirectly, for all cotton-textile interests—lies in the 1950-and-forward part of the new law.

This so-called Aiken-bill formula, which is now scheduled to go into effect Jan. 1, 1950, has the ge
support of the professionals in
Dept. of Agriculture. These are
people who actually carry out
price-support operations. They w
these provisions of the Aiken bill,
they are hoping that cotton Cong
men and their allies will not be
to overturn the provisions.

Here is what the bill does.

1950 SUPPORT. Beginnin
1950, the law provides for a "mod
ization" of the parity prices for
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ducts.

For instance, if the 1950 for
had been in effect on Mar. 15 of
year, the support price of cotton w
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This lowering of the parity pric
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only half of the story. The other
is the change in the percentage
support. Under the 1950 law, the
port price will range between 60
90% of the parity price fixed at
beginning of the marketing season

In a nutshell the picture is this

1. In 1948, a high parity
and support at 92½% of it.
2. In 1949, a high parity
and support at 90% of it.
3. In 1950, a lower (about 1
parity price and support at 60 to 9
of it.

SUPPORT PERCENTAGE. The
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which cotton will be supported
pends on a number of factors.
most important is the carry-over at
beginning of the crop year. The
itself provides for a sliding scale
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culture.

The law says that cotton mus
supported at 60% of parity when
total supply is 30% *above* the no
supply. It will be supported at 9

effect Jan. 1, 1950, has the general support of the professionals in the Dept. of Agriculture. These are the people who actually carry out the price-support operations. They wrote these provisions of the Aiken bill, and they are hoping that cotton Congressmen and their allies will not be able to overturn the provisions.

Here is what the bill does.

1950 SUPPORT. Beginning in 1950, the law provides for a "modernization" of the parity prices for various farm products. The 1910-1914 base period will still be used. But a new formula for figuring parity price will be applied. This formula is supposed to reflect more accurately the many changes in agricultural prices and production since 1910-1914.

This modernization of the parity formula lowers the support level, relatively speaking, for cotton (and the grain crops). At the same time, it raises the support level, relatively, for cottonseed, hogs, beef, and milk products.

For instance, if the 1950 formula had been in effect on Mar. 15 of this year, the support price of cotton would have been 26.58¢ per lb. Under the law that was in effect on Mar. 15, the price was 30.63¢. It is this relative loss of position that the cotton Congressmen will fight.

This lowering of the parity price by about 4¢ per lb. (in this example) is only half of the story. The other half is the change in the percentage of support. Under the 1950 law, the support price will range between 60 and 90% of the parity price fixed at the beginning of the marketing season.

In a nutshell the picture is this:

1. In 1948, a high parity price and support at 92½% of it.
2. In 1949, a high parity price and support at 90% of it.
3. In 1950, a lower (about 13%) parity price and support at 60 to 90% of it.

SUPPORT PERCENTAGE. The point between 60 and 90% of parity at which cotton will be supported depends on a number of factors. The most important is the carry-over at the beginning of the crop year. The law itself provides for a sliding scale that must be used by the Dept. of Agriculture.

The law says that cotton must be supported at 60% of parity when the total supply is 30% *above* the normal supply. It will be supported at 90% of parity when the total supply is not more than 70% of normal [or 30% *below* normal].

The total supply of cotton for any year is the carry-over, plus prospective production, plus imports. The normal supply is a figure based on estimated domestic consumption, plus exports, plus 30% allowance for a normal carry-over.

Another important factor is that the 1950 part of the new law renews the power of the Secretary of Agriculture to set up acreage restrictions for marketing quotas. Such production restrictions, if accepted by the cotton growers, would have the effect (according to a provision of the 1950 law) of automatically increasing support prices by 20%.

The 60 to 90% support level applies only to cooperators—cotton growers who abide by production or marketing restrictions, if these restrictions are applicable.

The non-cooperator (the grower who does not abide by his quota) gets special treatment. He can market the number of bales on his quota at whatever price the market affords, but he is entitled to no parity-price support on it. The other part of his crop (the part that is above his quota) can be used as security for borrowing money from the government; but the loan rate is only 60% of the rate that cooperating growers can get on their production.

SUPPORT MAY BE 50%. If the Secretary of Agriculture calls for a vote of cotton growers on the production or marketing restrictions, and these restrictions are disapproved by more than one-third of the voting producers, the support level for all cotton automatically becomes 50% of parity.

An accompanying table shows the parity price for cotton, as it would have been back through several years if determined by (1) the law that governs the parity prices on the current crop, and (2) by the 1950 law, the so-called Aiken formula.

Here is how the government price-support plan works.

The support price is actually a loan

PARITY PRICE OF COTTON

(What it would have been under the present law and the 1950 law)

Year beginning Aug. 1	1950 Formula	Present Formula
1923	$0.2144	$0.207
1924	0.2239	0.206
1925	0.2409	0.211
1926	0.2452	0.210
1927	0.2388	0.207
1928	0.2400	0.210
1929	0.2331	0.206
1930	0.2208	0.1984
1931	0.1880	0.1748
1932	0.1631	0.1525
1933	0.1527	0.1476
1934	0.1553	0.1587
1935	0.1481	0.1612
1936	0.1392	0.1575
1937	0.1478	0.1674
1938	0.1351	0.1562
1939	0.1260	0.1525
1940	0.1245	0.1550
1941	0.1297	0.1624
1942	0.1526	0.1860
1943	0.1713	0.2021
1944	0.1763	0.2096
1945	0.1754	0.2133
1946	0.2013	0.2443
1947	0.2415	0.2852

COKER WILDS

COKER WILDS cotton shown here is an i
staple American variety. Data on it is curren
mulated. Cross section 416x, longitudinal vi

WILDS

here is an important long-
on it is currently being accu-
ngitudinal view 500x.

price. The government will lend the cotton farmer money at a rate per pound equal to the support price. At the beginning of the cotton-picking season (usually about August), the Dept. of Agriculture announces the government's loan rate.

The base rate is for 15/16-in. Middling, White and Extra White. A premium is provided for cotton better than the base cotton, and a discount is provided for cotton lower than the base cotton.

When the cotton farmer harvests his crop, he can take his cotton to an insured warehouse and place it in storage. He can do this for these reasons: (1) he does not want to market his cotton immediately, because the market price is below the loan price; (2) if he needs money immediately, he can get it by putting his cotton under loan; or (3) he can put the cotton under loan, anticipating an increase in the market price for cotton.

COTTON LOAN. The farmer gets a receipt from the warehouse (the receipt includes a description of the grade and quality of his cotton). He takes this receipt to one of the designated loan banks, and the bank lends him the amount of money his papers show that he is entitled to.

At some later date, if the market price of cotton rises above the loan rate, he can sell his cotton to a buyer. All the farmer does is get from the buyer the difference between the selling price and the loan. [If he borrowed $150 on a bale of cotton when it was put in the warehouse, and the bale is now worth $160, he is entitled to $10.] He then surrenders to the buyer the papers he holds on the cotton. The buyer takes possession of the stored cotton by paying off the loan that the farmer got on the cotton from the bank.

If the farmer himself wishes to repossess his cotton, he may do so by repaying the bank. He gets back his receipts, and thus has clear title to the cotton. He can then sell the cotton if he wants to. Very few farmers actually repossess their cotton-on-loan. The reason is that it involves an additional step and the repayment of the loan directly out of his own pocket.

If the cotton is still on loan at the end of the marketing year, it then becomes part of the "pool" for that year. All the cotton that is in the pool is eventually sold or otherwise disposed of by the government. If the government makes a profit on the sales of the pooled cotton over the cost of warehousing, insurance, marketing, etc., each farmer who had cotton in the pool shares in the net profits of that pool according to his participation. (This pooling device was not in effect, of course, when the government took title to about 10 million bales of cotton before the war.)

If there is a loss on the d
of the pooled cotton, the go
of course, absorbs it.

CARRY-OVER COTTO
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loan agency) to take into
cotton that is not of averag
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or for which the supply is l
demand.

In practice, this usually m
the higher and lower grad
often pooled because of th
for them. The middle grad

PREMIUMS AND DISCOUNTS FOR ALL QUALIT

(Basis 15/16-in. Middling)

GRADE	13/16 Pts.	7/8 Pts.	29/32 Pts.	15/16 Pts.	31/32 Pts.
WHITE & EXTRA WHITE					
Good Middling and better	−280	−145	−40	50	85
Strict Middling	−290	−160	−55	35	70
Middling	−325	−195	−90	Base	35
Strict Low Middling	−460	−310	−200	−115	−80
Low Middling	−805	−675	−570	−480	−475
Strict Good Ordinary	−1245	−1105	−1010	−930	−925
Good Ordinary	−1465	−1325	−1225	−1135	−1135
SPOTTED					
Good Middling	−410	−255	−160	−75	−60
Strict Middling	−420	−275	−180	−90	−75
Middling	−630	−470	−380	−295	−280
Strict Low Middling	−1010	−850	−765	−665	−660
Low Middling	−1410	−1255	−1170	−1080	−1075
TINGED					
Good Middling	−985	−785	−700	−625	−620
Strict Middling	−1020	−835	−745	−670	−665
Middling	−1290	−1080	−985	−900	−900
Strict Low Middling	−1550	−1330	−1225	−1150	−1145
Low Middling	−1725	−1540	−1445	−1370	−1365
YELLOW STAINED					
Good Middling	−1300	−1110	−1030	−965	−960
Strict Middling	−1325	−1145	−1060	−990	−985
Middling	−1470	−1270	−1175	−1105	−1100
GRAY					
Good Middling	−525	−370	−300	−220	−21
Strict Middling	−570	−410	−340	−265	−25
Middling	−665	−495	−420	−345	−33

PREMIUMS AND DISCOUNTS FOR ALL QUALITIES OF 1948 COTTON

(Basis 15/16-in. Middling)

	Staple length (in.)													
	13/16 Pts.	7/8 Pts.	29/32 Pts.	15/16 Pts.	31/32 Pts.	1 Pts.	1 1/32 Pts.	1 1/16 Pts.	1 3/32 Pts.	1 1/8 Pts.	1 5/32 Pts.	1 3/16 Pts.	1 7/32 Pts.	1 1/4 & Longer Pts.
	−280	−145	−40	50	85	125	170	215	360	485	690	1010	1180	1355
	−290	−160	−55	35	70	110	155	200	350	475	665	985	1155	1330
	−325	−195	−90	Base	35	75	120	160	300	415	590	885	1055	1230
	−460	−310	−200	−115	−80	−40	−5	30	175	270	390	570	645	735
	−805	−675	−570	−480	−475	−460	−440	−430	−390	−380	−365	−350	−340	−315
	−1245	−1105	−1010	−930	−925	−925	−925	−920	−920	−920	−920	−920	−920	−920
	−1465	−1325	−1225	−1135	−1135	−1135	−1135	−1130	−1130	−1125	−1125	−1125	−1125	−1125
	−410	−255	−160	−75	−60	−45	−30	−10	45	90	160	260	335	435
	−420	−275	−180	−90	−75	−60	−45	−15	40	85	150	250	325	425
	−630	−470	−380	−295	−280	−270	−255	−240	−230	−145	−95	−25	50	125
	−1010	−850	−765	−665	−660	−655	−655	−650	−640	−640	−640	−640	−640	−640
	−1410	−1255	−1170	−1080	−1075	−1070	−1070	−1060	−1040	−1030	−1030	−1030	−1030	−1030
	−985	−785	−700	−625	−620	−615	−610	−605	−590	−565	−540	−490	−465	−440
	−1020	−835	−745	−670	−665	−655	−650	−650	−640	−615	−590	−540	−515	−490
	−1290	−1080	−985	−900	−900	−890	−885	−875	−860	−850	−850	−850	−850	−850
	−1550	−1330	−1225	−1150	−1145	−1140	−1140	−1120	−1090	−1075	−1075	−1075	−1075	−1075
	−1725	−1540	−1445	−1370	−1365	−1360	−1360	−1360	−1360	−1360	−1360	−1360	−1360	−1360
	−1300	−1110	−1030	−965	−960	−955	−950	−950	−925	−915	−915	−915	−915	−915
	−1325	−1145	−1060	−990	−985	−980	−980	−975	−950	−940	−940	−940	−940	−940
	−1470	−1270	−1175	−1105	−1100	−1095	−1095	−1080	−1065	−1050	−1050	−1050	−1050	−1050
	−525	−370	−300	−220	−210	−200	−180	−160	−90	35	105	160	210	285
	−570	−410	−340	−265	−250	−235	−220	−200	−130	−5	45	120	170	245
	−665	−495	−420	−345	−335	−325	−310	−295	−265	−225	−200	−175	−150	−125

step and the repayment of the loan directly out of his own pocket.

If the cotton is still on loan at the end of the marketing year, it then becomes part of the "pool" for that year. All the cotton that is in the pool is eventually sold or otherwise disposed of by the government. If the government makes a profit on the sales of the pooled cotton over the cost of warehousing, insurance, marketing, etc., each farmer who had cotton in the pool shares in the net profits of that pool according to his participation. (This pooling device was not in effect, of course, when the government took title to about 10 million bales of cotton before the war.)

If there is a loss on the disposition of the pooled cotton, the government, of course, absorbs it.

CARRY-OVER COTTON. This kind of operation causes the Commodity Credit Corp. (the government-loan agency) to take into the pool cotton that is not of average quality or quality distribution. Instead, CCC gets in the pool larger quantities of those cottons that are in least demand or for which the supply is larger than demand.

In practice, this usually means that the higher and lower grades are not often pooled because of the demand for them. The middle grades, which account for the largest part of the crop, are most frequently pooled. This is not true, of course, when the demand for cotton fabrics made of the middle grades is equal to, or greater than, the available supply of those grades.

An example of what can happen is shown in the following table:

	Mill Stocks (32nds)	*Free Stocks* (32nds)	*CCC Stocks* (32nds)
1944	33.0	31.7	29.5
1945	32.9	31.8	30.0
1946	32.9	31.6	29.6
1947	33.1	32.4	31.2

The average staple length in the 1947 carry-over was 32.8 thirty-seconds of an inch. This is the longest on record. During recent years, there has been a tendency toward accumulation of shorter lengths in the carry-over. With (1) the disappearance of government stocks, (2) the reduction of the 1947 carry-over to less than 2½ million bales, and (3) the increased planting of varieties producing medium lengths, this situation has changed considerably.

The average length of cotton in mills on Aug. 1, 1947 was 33.1 thirty-seconds of an inch, equal to the longest on record. The average for the extremely small stocks in public storage last year was 32.5 thirty-seconds.

TEXTILE WORLD'S

Photomicrographs through the courtesy of the Institute of Textile Technology, Charlottesville, Va. Prepared by T. L. W. Bailey, Jr. and J. C. Burnett. Samples of the varieties were furnished by the Bureau of Plant Industries, U.S. Dept. of Agriculture.

Fiber-property and manufacturing data were taken from studies made by the Cotton Branch, U.S. Dept. of Agriculture.

DELTAPINE

Deltapine has high yield and lint turn-out and good fiber and spinning qualities. Length uniformity is slightly irregular to good. Fineness is average. Maturity is average to very mature. Fiber strength is weak to very strong. Yarn strength of 22s is average to excellent; 36s, fair to very good. Neppiness is low to high.

STONEVILLE 2

Stoneville 2B, popular for several years, has good fiber quality and adaptation to mill uses. Uniformity is slightly irregular to good. Fineness is fine to average. Maturity is immature to mature. Fiber strength is fair to very good. Yarn strength of 22s is very good to excellent; 36s, average to very good. Neppiness is low to high.

		SEASON	REGION OF GROWTH			REGION OF GROWTH		
			SOUTHEAST	MID-SOUTH	SOUTHWEST	SOUTHEAST	MID-SOUTH	SOUT
FIBER PROPERTIES	**Grade**	1946	SLM to M	SLM to M	SLM and SLM	M and M	M to M	M a
		1947	LM to SM ltsp*	SLM to SM	SLM to M	SLM to M	SLM to SM	SLM
	Staple Length (in.)	1946	1 1/32 to 1 1/16	1 1/32 to 1 3/32	1 1/32 and 1 1/32	1 1/32 and 1 1/32	1 1/16 to 1 3/32	1 1/16 a
		1947	1 to 1 1/32	1 to 1 3/32	1 1/32	1 1/32	1 1/32 to 1 3/32	1 1/32
	Upper-Half Mean (in.)	1946	1.00 to 1.10	1.00 to 1.15	1.00 and 1.05	1.04 and 1.06	1.07 to 1.14	1.01 a
		1947	0.97 to 1.08	0.94 to 1.10	0.98 to 1.01	1.05 to 1.06	0.99 to 1.10	0.99
	Mean (in.)	1946	0.83 to 0.88	0.74 to 0.98	0.73 and 0.84	0.82 and 0.89	0.86 to 0.92	0.74 a
		1947	0.71 to 0.87	0.73 to 0.89	0.74 to 0.75	0.83 to 0.86	0.73 to 0.85	0.75
	Uniformity Ratio	1946	80 to 84	74 to 86	73 and 80	79 and 84	80 to 84	74 a
		1947	73 to 82	74 to 82	74 to 77	78 to 81	73 to 81	75
	Fineness (wt. per in. of fiber)	1946	3.9 to 4.9	3.8 to 4.6	4.2 and 4.6	4.2 and 4.3	3.8 to 4.2	4.0 a
		1947	3.9 to 4.9	3.8 to 5.0	4.2 to 4.4	3.9 to 4.2	3.4 to 4.8	3.4
	Mature Fibers (%)	1946	68 to 82	72 to 84	78 and 82	75 and 78	75 to 79	73 a
		1947	73 to 82	70 to 86	80 to 85	71 to 75	63 to 82	67
	Tensile Strength (1,000 lb. per sq. in.)	1946	70 to 76	70 to 82	77 and 82	78 and 78	72 to 86	80 a
		1947	72 to 84	77 to 87	76 to 84	78 to 81	78 to 87	81
PERFORMANCE	**Non-Lint Content** (%)	1946	---	---	---	---	---	
		1947	2.6 to 4.8	2.4 to 6.5	4.5 to 5.9	3.2 to 3.7	3.2 to 5.7	3.0
	Picker and Card Waste (%)	1946	7.2 to 10.0	6.6 to 10.7	10.0 and 11.5	7.3 and 8.2	8.0 to 9.4	8.3
		1947	7.1 to 10.0	7.1 to 10.1	8.0 to 8.5	8.3 to 9.1	7.3 to 10.7	6.9
	Neps (100 sq. in. of card web)	1946	14 to 28	10 to 36	20 and 28	14 and 24	14 to 28	20
		1947	16 to 38	7 to 25	9 to 17	21 to 32	9 to 37	9
	Equivalent Staple Length (in.)	1946	15/16 to 1 1/16	15/16 to 1 3/32	31/32 and 1 1/32	1 and 1 1/16	1 1/16 to 1 1/8	1 1/32
		1947	29/32 to 1 1/32	15/16 to 1 1/8	31/32 to 1 1/32	1 to 1 1/16	31/32 to 1 1/8	1 1/3
	Strength of 14s Yarn (lb.)	1946	---	---	---	---	---	
		1947	176 to 195	176 to 204	---	186	187 to 203	

S COTTON-

Compiled by **P. M. THOMAS,** Associate

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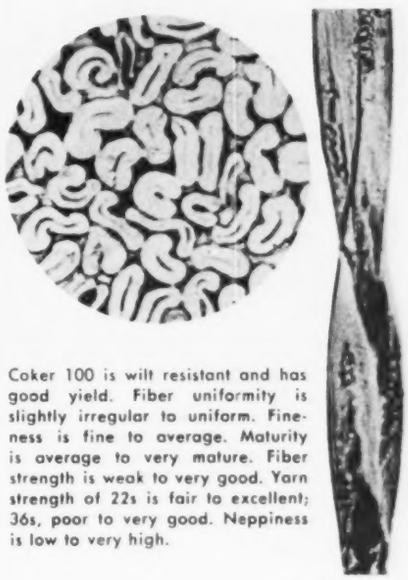
WTH	
	SOUTHWEST
	M and M
	SLM to M
	1 1/16 and 1 1/32
	1 1/32 to 1 1/16
	1.01 and 1.05
	0.99 to 1.08
	0.74 and 0.80
	0.75 to 0.81
	74 and 77
	75 to 76
	4.0 and 4.0
	3.4 to 4.0
	73 and 74
	67 to 82
	80 and 80
	81 to 84

	3.0 to 4.5
	8.3 and 9.4
	6.9 to 9.7
	20 and 30
	9 to 18
	1 1/32 and 1 1/8
	1 1/32 to 1 1/8

COKER 100



Coker 100 is wilt resistant and has good yield. Fiber uniformity is slightly irregular to uniform. Fineness is fine to average. Maturity is average to very mature. Fiber strength is weak to very good. Yarn strength of 22s is fair to excellent; 36s, poor to very good. Neppiness is low to very high.

REGION OF GROWTH	
SOUTHEAST	MID-SOUTH
SLM to M	M
LM to SM	SLM to SM
1 1/32 to 1 1/16	1 1/8
1 to 1 1/16	1 1/32 to 1 1/8
1.04 to 1.09	1.16
1.00 to 1.09	1.06 to 1.10
0.82 to 0.89	0.92
0.74 to 0.92	0.81 to 0.90
78 to 82	78
72 to 84	75 to 82
4.2 to 4.6	4.0
4.0 to 4.7	3.8 to 4.8
72 to 83	78
70 to 82	80 to 88
68 to 73	76
66 to 82	81 to 86
---	---
3.0 to 7.4	3.1 to 5.2
6.9 to 9.3	8.8
7.8 to 15.5	7.2 to 9.5
14 to 20	20
16 to 41	5 to 19
15/16 to 1	1 1/8
13/16 to 1 1/16	1 to 1 1/8
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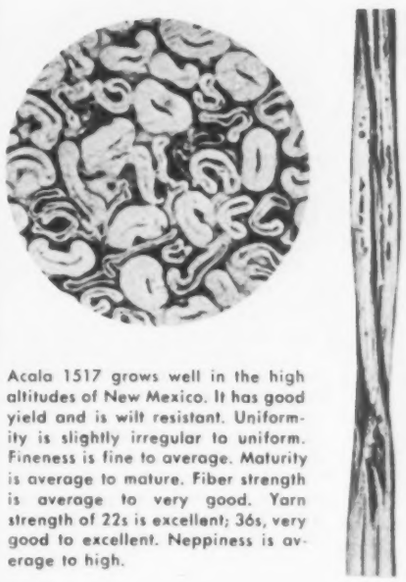
155 to 202	190 to 202

ACALA 1517



Acala 1517 grows well in the high altitudes of New Mexico. It has good yield and is wilt resistant. Uniformity is slightly irregular to uniform. Fineness is fine to average. Maturity is average to mature. Fiber strength is average to very good. Yarn strength of 22s is excellent; 36s, very good to excellent. Neppiness is average to high.

REGION OF GROWTH	
SOUTHWEST	FAR WEST
M	M
SM and SMEW	SM and SMEW
1 3/32	1 3/32
1 3/32 and 1 3/32	1 3/32 and 1 3/32
1.10	1.12
1.11 and 1.13	1.10 and 1.12
0.90	0.91
0.81 and 0.89	0.81 and 0.91
82	81
73 and 79	74 and 81
4.1	4.0
3.9 and 4.0	3.6 and 3.8
82	76
78 and 82	79 and 79
82	81
79 and 84	82 and 86
---	---
3.2 and 4.1	2.7 and 3.8
7.8	8.1
7.1 and 8.1	6.8 and 7.5
20	21
16 and 32	31 and 37
1 3/16	1 1/8
1 5/32 and 1 3/16	1 1/8 and 1 3/16
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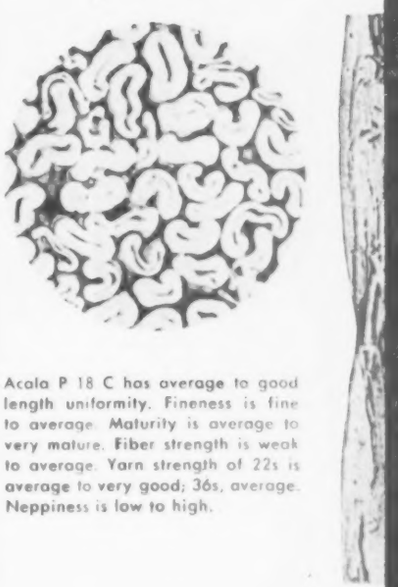
208	202

ACALA P 18 C



Acala P 18 C has average to good length uniformity. Fineness is fine to average. Maturity is average to very mature. Fiber strength is weak to average. Yarn strength of 22s is average to very good; 36s, average. Neppiness is low to high.

REGION OF GROWTH
FAR WEST
M to SMEW
M to GM
1 1/32 to 1 3/32
1 1/32 to 1 3/32
1.02 to 1.10
1.01 to 1.07
0.84 to 0.92
0.78 to 0.85
80 to 84
76 to 80
4.1 to 4.4
3.8 to 4.4
81 to 86
72 to 83
68 to 78
70 to 79

2.5 to 4.8
8.1 to 9.8
6.9 to 9.3
18 to 28
11 to 34
31/32 to 1 1/32
15/16 to 1 1/32
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167 to 184

OTTON-FIBER

Compiled by ***P. M. THOMAS,*** *Associate Editor*

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. Fine-
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ACALA 1517

Acala 1517 grows well in the high altitudes of New Mexico. It has good yield and is wilt resistant. Uniformity is slightly irregular to uniform. Fineness is fine to average. Maturity is average to mature. Fiber strength is average to very good. Yarn strength of 22s is excellent; 36s, very good to excellent. Neppiness is average to high.

ACALA P 18 C

Acala P 18 C has average to good length uniformity. Fineness is fine to average. Maturity is average to very mature. Fiber strength is weak to average. Yarn strength of 22s is average to very good; 36s, average. Neppiness is low to high.

ACALA 4-42

Acala 4-42—the new variety developed for growth in California—has average fiber uniformity. Fineness is average. Maturity is above average. Fiber strength is average. Yarn strength of 22s is excellent; 36s, very good. Neppiness is average.

HIBRED

Hibred has average to good fiber-length uniformity. Fineness is average to coarse. Maturity is average to very mature. Fiber strength is fair to very good. Yarn strength of 22s is poor to fair; 36s, poor. Neppiness is low.

OWTH	REGION OF GROWTH		REGION OF GROWTH	REGION OF GROWTH	REGION OF GROWTH	
MID-SOUTH	SOUTHWEST	FAR WEST	FAR WEST	FAR WEST	MID-SOUTH	SOUTHWEST
M	M	M	M to SMEW	---	---	SLM and SLM
SLM to SM	SM and SMEW	SM and SMEW	M to GM	MEW and SM	M and SM	M to GM
1 1/8	1 3/32	1 3/32	1 1/32 to 1 3/32	---	---	13/16 and 7/8
1 1/32 to 1 1/8	1 3/32 and 1 3/32	1 3/32 and 1 3/32	1 1/32 to 1 3/32	1 1/16 and 1 1/16	29/32 and 29/32	13/16 to 13/16
1.16	1.10	1.12	1.02 to 1.10	---	---	0.76 and 0.84
1.06 to 1.10	1.11 and 1.13	1.10 and 1.12	1.01 to 1.07	1.07 and 1.08	0.84 and 0.85	0.75 to 0.85
0.92	0.90	0.91	0.84 to 0.92	---	---	0.65 and 0.68
0.81 to 0.90	0.81 and 0.89	0.81 and 0.91	0.78 to 0.85	0.83 and 0.84	0.66 and 0.67	0.60 to 0.70
78	82	81	80 to 84	---	---	81 and 85
75 to 82	73 and 79	74 and 81	76 to 80	77 and 79	79 and 79	78 to 83
4.0	4.1	4.0	4.1 to 4.4	---	---	5.9 and 6.0
3.8 to 4.8	3.9 and 4.0	3.6 and 3.8	3.8 to 4.4	4.0 and 4.2	4.8 and 5.0	5.0 to 5.8
78	82	76	81 to 86	---	---	85 and 88
80 to 88	78 and 82	79 and 79	72 to 83	80 and 84	72 and 80	76 to 84
76	82	81	68 to 78	---	---	74 and 82
81 to 86	79 and 84	82 and 86	70 to 79	80 and 81	76 and 80	73 to 83
---	---	---	---	---	---	---
3.1 to 5.2	3.2 and 4.1	2.7 and 3.8	2.5 to 4.8	4.4 and 5.4	3.0 and 3.4	2.8 to 4.2
8.8	7.8	8.1	8.1 to 9.8	---	---	10.4 and 11.9
7.2 to 9.5	7.1 and 8.1	6.8 and 7.5	6.9 to 9.3	7.9 and 9.6	7.7 and 8.6	8.3 to 11.1
20	20	21	18 to 28	---	---	8 and 12
5 to 19	16 and 32	31 and 37	11 to 34	15 and 19	9 and 13	6 to 14
1 1/8	1 3/16	1 1/8	31/32 to 1 1/32	---	---	3/4 and 3/4
1 to 1 1/8	1 5/32 and 1 3/16	1 1/8 and 1 3/16	15/16 to 1 1/32	1 1/8 and 1 1/8	7/8 and 7/8	23/32 to 27/32

TA

ROWDEN

Rowden has average to good fiber-length uniformity. Fineness is slightly coarse to coarse. Maturity is good to very good. Fiber strength is average to excellent. Yarn strength of 22s is fair to very good; 36s, poor to fair. Neppiness is low to average.

REGION OF GROWTH	
MID-SOUTH	SOUTHWEST
M and M	SLM to SM
M to SM	M to GM
1 1/32 and 1 1/32	15/16 to 31/32
29/32 to 1	29/32 to 1
0.97 and 1.00	0.90 to 0.97
0.88 to 1.00	0.89 to 0.97
0.78 and 0.84	0.70 to 0.80
0.71 to 0.80	0.70 to 0.79
81 and 84	76 to 82
78 to 81	78 to 82
5.3 and 5.8	5.2 to 5.9
5.4 to 6.0	5.1 to 6.0
85 and 88	81 to 87
81 to 92	82 to 88
78 and 79	83 to 84
84 to 89	78 to 91
---	---
3.0 to 4.0	3.2 to 4.8
8.8 and 8.9	9.2 to 10.9
7.7 to 9.2	7.6 to 10.0
4 and 12	10 to 18
5 to 11	5 to 12
15/16 and 1	7/8 to 31/32
25/32 to 15/16	27/32 to 31/32
---	---

ER TABLE

HIBRED

average to good fiber-
ormity. Fineness is aver-
rse. Maturity is average
ature. Fiber strength is
good. Yarn strength of
to fair; 36s, poor. Nep-
w.

EGION OF GROWTH	
OUTH	SOUTHWEST
-	SLM and SLM
SM	M to GM
-	13/16 and 7/8
d 29/32	13/16 to 13/16
-	0.76 and 0.84
d 0.85	0.75 to 0.85
-	0.65 and 0.68
d 0.67	0.60 to 0.70
-	81 and 85
d 79	78 to 83
-	5.9 and 6.0
d 5.0	5.0 to 5.8
-	85 and 88
d 80	76 to 84
-	74 and 82
d 80	73 to 83
---	---
and 3.4	2.8 to 4.2
---	10.4 and 11.9
and 8.6	8.3 to 11.1
---	8 and 12
d 13	6 to 14
---	3/4 and 3/4

ROWDEN

Rowden has average to good fiber-length uniformity. Fineness is slightly coarse to coarse. Maturity is good to very good. Fiber strength is average to excellent. Yarn strength of 22s is fair to very good; 36s, poor to fair. Neppiness is low to average.

REGION OF GROWTH	
MID-SOUTH	SOUTHWEST
M and M	SLM to SM
M to SM	M to GM
1 1/32 and 1 1/32	15/16 to 31/32
29/32 to 1	29/32 to 1
0.97 and 1.00	0.90 to 0.97
0.88 to 1.00	0.89 to 0.97
0.78 and 0.84	0.70 to 0.80
0.71 to 0.80	0.70 to 0.79
81 and 84	76 to 82
78 to 81	78 to 82
5.3 and 5.8	5.2 to 5.9
5.4 to 6.0	5.1 to 6.0
85 and 88	81 to 87
81 to 92	82 to 88
78 and 79	83 to 84
84 to 89	78 to 91
---	---
3.0 to 4.0	3.2 to 4.8
8.8 and 8.9	9.2 to 10.9
7.7 to 9.2	7.6 to 10.0
4 and 12	10 to 18
5 to 11	5 to 12
15/16 and 1	7/8 to 31/32

Ratings of Fiber-Property and Manufacturing-Performance Values

Uniformity

Above 80	Uniform
76 to 80	Average
71 to 75	Slightly irregular
70 and below	Irregular

Fineness

Below 3.0	Very fine
3.0 to 3.9	Fine
4.0 to 4.9	Average
5.0 to 5.9	Slightly coarse
6.0 and above	Coarse

Maturity

Above 84	Very mature
77 to 84	Mature
68 to 76	Average
60 to 67	Immature
Below 60	Very immature

Fiber Strength

100 and above	Superior
90 to 99	Excellent
83 to 89	Very good
78 to 82	Average
72 to 77	Fair
Below 72	Weak

Average Waste by Grade

GM	6.3
SM	7.2
M	8.0
SLM	9.2
LM	11.8
SGO	14.0
GO	16.5

Yarn Strength

	22s	36s
Excellent	Above 119	Above 70
Very good	109 to 119	64 to 70
Average	100 to 108	56 to 63
Fair	92 to 99	50 to 55
Poor	Below 92	Below 50

Nep Count

1 to 15	Low
16 to 25	Average
26 to 40	High
Above 40	Very high

Yarn Appearance

A and above	Excellent
B+	Very good
B	Good
C+	Average
C	Fair
D+	Poor
D and below	Very poor

WORLD COTTONS

TYPE	STAPLE LENGTH	TEXTURE	FIBER STRENGTH
Asiatic	Short	Coarse	Medium
Peruvian	Short to long	Coarse to medium	Weak to medium
American Upland	Short to long	Medium to fine	Weak to strong
Egyptian	Medium to long	Medium to fine	Medium to strong
Sea Island	Long	Fine	Strong

MANUFACTURING PERFORMAN

Picker and Card Waste (%)	1947	7.1 to 10.0	7.1 to 10.1	8.0 to 8.5	8.3 to 9.1	7.3 to 10.7
Neps (100 sq. in. of card web)	1946	14 to 28	10 to 36	20 and 28	14 and 24	14 to 28
	1947	16 to 38	7 to 25	9 to 17	21 to 32	9 to 37
Equivalent Staple Length (in.)	1946	15/16 to 1 1/16	15/16 to 1 3/32	31/32 and 1 1/32	1 and 1 1/16	1 1/16 to 1 1/8
	1947	29/32 to 1 1/32	15/16 to 1 1/8	31/32 to 1 1/32	1 to 1 1/16	31/32 to 1 1/8
Strength of 14s Yarn (lb.)	1946	---	---	---	---	---
	1947	176 to 195	176 to 204	---	186	187 to 203
Strength of 22s Yarn (lb.)	1946	102 to 117	100 to 121	105 and 113	110 and 116	115 to 121
	1947	103 to 116	101 to 123	107 to 114	112 to 119	108 to 123
Strength of 36s Yarn (lb.)	1946	53 to 62	54 to 67	56 and 60	59 and 63	62 to 67
	1947	53 to 61	54 to 67	56 to 62	58 to 63	58 to 68
Strength of 50s Yarn (lb.)	1946	---	---	---	---	---
	1947	33 to 37	36	---	33 and 36	---
Strength of 60s Yarn (lb.)	1946	27 to 30	27 to 34	28 and 30	29 and 33	32 to 34
	1947	25 to 31	26 to 34	28 to 31	28 to 33	28 to 35
Appearance of 22s Yarn	1946	C+ to B+	C+ to B+	B and B	B and B	B to C+
	1947	C+ to B+	C+ to B+	B to B+	B to B+	C+ to B+
Appearance of 36s Yarn	1946	C to B	C to B	C+ and C+	C+ and C+	C to C+
	1947	C+ to B	C to B	C+ to B	C+	C to B

*Light spotted

WOVEN GOODS MADE FROM COTTON

(Goods over 12 in. in width except tire fabrics. All in gray except blankets and blanketing.)

	1939	1941	1943	1944	1945	1946
Total (1,000 yd.)	8,287,249	10,431,979	10,573,294	9,546,722	8,720,550	9,111,002
Cotton duck	173,979	338,063	550,472	431,924	436,513	234,456
Narrow sheeting and allied fabrics	1,585,034	2,110,024	2,869,511	2,467,486	2,234,890	2,190,678
Print cloth	2,999,356	3,503,336	3,298,124	3,078,126	2,810,429	2,880,806
Napped fabrics (total)	451,412	535,133	446,781	440,040	418,769	450,586
Flannel, moleskin, and duvetyn	313,346	316,745	308,348	289,003	282,120	294,513
Blankets, except crib, (total)	74,774	101,940	63,195	54,667	41,697	43,411
All-cotton	58,407	82,301	49,323	43,825	36,390	37,924
Not jacquard	45,452	---	---	---	---	---
Jacquard	12,955	---	---	---	---	---
Part-wool	16,367	19,639	13,872	10,842	5,307	5,487
Crib blankets	10,750	---	16,795	14,150	16,637	20,635
Blanketing	5,507	---	---	---	---	---
Other napped goods	47,035	116,448	63,443	82,220	78,315	92,027
Colored goods	683,659	909,699	696,471	662,554	517,831	616,773
Fine goods (all combed or part combed, or combed or synthetic decorative yarns)	1,036,206	1,270,113	1,335,739	1,209,250	1,142,301	1,272,273
Towels, toweling, terry fabrics	482,641	531,405	416,695	342,578	352,632	413,217
Wide cotton fabrics	557,475	679,329	586,351	534,394	493,426	562,020
Specialties and all others	317,487	527,877	373,150	380,370	313,759	490,193

Figures taken from the Statisical Abstract of the United States, 1947.

World Produ

Year	United States (1,000 bales)
1929	14,825
1930	13,932
1931	17,097
1932	13,003
1933	13,047
1934	9,636
1935	10,638
1936	12,399
1937	18,946
1938	11,943
1939	11,817
1940	12,566
1941	10,744
1942	12,817
1943	11,427
1944	12,230
1945	9,015
1946	8,640
18-year Average	12,484

WORLD-PRODUCTION
1941, 1942, 1943, ar
U.S.S.R. (1940 estimate
estimate is 1,700,000 b
of New York and New
1939, prices are for 7
are for 15/16-in. Mid

0.7	6.9 to 9.7	7.8 to 15.5	7.2 to 9.5	7.1 and 8.1	6.8 and 7.5	6.9 to 9.3
28	20 and 30	14 to 20	20	20	21	18 to 28
7	9 to 18	16 to 41	5 to 19	16 and 32	31 and 37	11 to 34
1 1/8	1 1/32 and 1 1/8	15/16 to 1	1 1/8	1 3/16	1 1/8	31/32 to 1 1/32
1/8	1 1/32 to 1 1/8	13/16 to 1 1/16	1 to 1 1/8	1 5/32 and 1 3/16	1 1/8 and 1 3/16	15/16 to 1 1/32
	---	---	---	---	---	---
03	---	155 to 202	190 to 202	208	202	167 to 184
21	111 and 120	104 to 110	122	127	120	104 to 113
23	114 to 122	92 to 118	112 to 122	125 and 128	122 and 128	102 to 112
37	61 and 66	55 to 58	69	71	67	56 to 61
68	61 to 67	48 to 63	61 to 68	69 and 70	69 and 70	55 to 60
	---	---	---	---	---	---
	---	32 to 37	---	---	---	---
34	31 and 35	27 to 29	35	37	35	29 to 32
35	32 to 34	22 to 32	31 to 35	36 and 37	35 and 37	27 to 31
+	B and B	C+ to B	C+	C+	C+	C+ to B
B+	C+ to B	C+ to B+	C+ to B+	C+	C and C+	C to C+
+	C+ and C+	C+	C	C+	C+	C to C+
	C to C+	C to B	C to B	D+ and C	D and C	D+ to C+

Production and U.S. Price

United States (1,000 bales)	Rest of world (1,000 bales)	Total (1,000 bales)		Price United States (cents per lb.)
4,825	12,035	26,860		16.360
3,932	12,268	26,200		10.230
7,097	10,753	27,850		6.270
3,003	11,447	24,450	7/8 Middling	7.315
3,047	13,873	26,920		11.005
9,636	14,174	23,810		12.440
0,638	16,182	26,820		11.700
2,399	19,051	31,450		12.860
8,946	19,659	38,605		8.770
1,943	17,147	29,090		8.860
1,817	17,078	28,895		10.185
2,566	18,034	30,600		11.305
0,744	16,521	27,265		18.615
2,817	14,263	27,080	15/16 Middling	20.475
1,427	13,923	25,350		20.870
2,230	11,920	24,150		22.130
9,015	11,635	20,650		26.250
8,640	12,585	21,225		35.080
2,484	14,586	27,070		

ODUCTION FIGURES are estimates. Figures for 2, 1943, and 1944 do not include estimates for 40 estimate for U.S.S.R. is 3,000,000 bales; 1945 1,700,000 bales.) U.S. cotton prices are averages k and New Orleans markets. From 1929 through s are for 7/8-in. Middling. From 1940 on, prices /16-in. Middling.

Production by Grade

(Percentage of Total Crop, 1944-46)

Grade (all lengths)	1944 (%)	1945 (%)	1946 (%)
Middling Fair	None	None	None
Strict Good Middling	Less than 0.05	Less than 0.05	Less than 0.05
Good Middling	0.1	0.4	0.5
Strict Middling	6.3	7.0	12.0
Middling	34.5	30.9	36.6
Strict Low Middling	37.8	35.1	35.1
Low Middling	13.5	14.5	9.8
Strict Good Ordinary	3.6	5.3	3.5
Good Ordinary	1.9	3.9	1.7
Gray (all grades)	1.2	0.7	0.6
Below	1.1	2.2	0.2
Descriptive grade			
White and Extra White	90.1	86.7	87.3
Spotted	7.4	10.3	11.8
Tinged	0.2	0.1	0.1
Yellow Stained	Less than 0.05	Less than 0.05	Less than 0.05
Gray	1.2	0.7	0.6
Below	1.1	2.2	0.2

Production by Staple Length

(Percentage of Total Crop, 1944-46)

Staple length (all grades)	1944 (%)	1945 (%)	1946 (%)
13/16 in. and shorter	4.7	2.6	1.9
7/8	5.6	4.7	4.1
29/32	5.7	2.9	3.2
15/16	9.3	10.4	7.6
31/32	9.2	8.9	5.4
1	19.5	19.9	15.8
1 1/32	21.6	22.1	25.3
1 1/16	15.9	18.7	24.2
1 3/32	5.6	7.0	9.6
1 1/8	1.5	1.6	2.0
1 5/32	0.6	0.5	0.4
1 3/16	0.4	0.3	0.2
1 7/32	0.2	0.2	0.1
1 1/4 and longer	0.2	0.2	0.2

FINISHED COTTON GOODS

(Woven cotton goods over 12 in. in width, except tire fabrics—bleached, dyed, and finished.)

Total (1,000 yd.)	1939	1941	1943	1945	1946 Preliminary
Bleached, dyed or printed	5,050,065	6,519,520	7,403,108	6,448,112	6,941,348
Bleached and white-finished	2,174,352	3,054,821	3,681,604	3,151,186	3,380,226
Plain dyed and finished	1,431,938	2,112,435	2,479,416	2,127,721	1,883,361
Printed and finished	1,443,775	1,352,264	1,242,088	1,169,205	1,677,761

to 9.5	7.1 and 8.1	6.8 and 7.5	6.9 to 9.3	7.9 and 9.6	7.7 and 8.6	8.
20	20	21	18 to 28	---	---	
to 19	16 and 32	31 and 37	11 to 34	15 and 19	9 and 13	
1 1/8	1 3/16	1 1/8	31/32 to 1 1/32	---	---	3/
1 1/8	1 5/32 and 1 3/16	1 1/8 and 1 3/16	15/16 to 1 1/32	1 1/8 and 1 1/8	7/8 and 7/8	23/
---	---	---	---	---	---	
to 202	208	202	167 to 184	204	163	1
122	127	120	104 to 113	---	---	
to 122	125 and 128	122 and 128	102 to 112	122 and 123	96 and 97	
69	71	67	56 to 61	---		
to 68	69 and 70	69 and 70	55 to 60	65 and 66	51 and 52	
---	---	---	---	---	---	
---	---	---	---	---	---	
35	37	35	29 to 32	---	---	
to 35	36 and 37	35 and 37	27 to 31	34 and 35	---	
C+	C+	C+	C+ to B	---	---	
to B+	C+	C and C+	C to C+	C and C+	B and B	
C	C+	C+	C to C+	---	---	
to B	D+ and C	D and C	D+ to C+	D+ and C	C+ and B	

oduction by Grade

ercentage of Total Crop, 1944-46)

(all lengths)	1944 (%)	1945 (%)	1946 (%)
air	None	None	None
Middling	Less than 0.05	Less than 0.05	Less than 0.05
dling	0.1	0.4	0.5
ling	6.3	7.0	12.0
	34.5	30.9	36.6
Middling	37.8	35.1	35.1
ng	13.5	14.5	9.8
Ordinary	3.6	5.3	3.5
nary	1.9	3.9	1.7
grades)	1.2	0.7	0.6
	1.1	2.2	0.2
grade			
Extra White	90.1	86.7	87.3
	7.4	10.3	11.8
	0.2	0.1	0.1
ined	Less than 0.05	Less than 0.05	Less than 0.05
	1.2	0.7	0.6
	1.1	2.2	0.2

Production by Staple Length

(Percentage of Total Crop, 1944-46)

Staple length (all grades)	1944 (%)	1945 (%)	1946 (%)
13/16 in. and shorter	4.7	2.6	1.9
7/8	5.6	4.7	4.1
29/32	5.7	2.9	3.2
15/16	9.3	10.4	7.6
31/32	9.2	8.9	5.4
1	19.5	19.9	15.8
1 1/32	21.6	22.1	25.3
1 1/16	15.9	18.7	24.2
1 3/32	5.6	7.0	9.6
1 1/8	1.5	1.6	2.0
1 5/32	0.6	0.5	0.4
1 3/16	0.4	0.3	0.2
1 7/32	0.2	0.2	0.1
1 1/4 and longer	0.2	0.2	0.2

GRADE INDEX AND STAPLE LEN

Region of Growth	Grade Index						
	1941	1942	1943	1944	1945	1946	19
United States	94.1	95.0	96.2	93.4	91.8	94.5	31.
Southeast							
Alabama	97.8	97.1	97.2	95.9	96.5	96.1	31.
Florida	97.8	93.3	96.8	93.3	94.5	97.6	33.
Georgia	97.0	96.0	96.3	95.2	92.9	95.5	31.
North Carolina	97.9	93.7	95.4	88.7	90.1	93.2	33.
South Carolina	97.1	95.4	95.3	90.8	88.9	94.9	33.
Virginia	96.0	88.0	92.5	88.7	92.5	93.8	33.
Mid-South							
Arkansas	95.1	95.8	96.4	94.9	89.0	93.0	33
Louisiana	95.3	96.4	96.3	95.8	94.5	95.8	33.
Mississippi	96.8	97.5	97.1	95.9	92.9	96.6	34.
Missouri	93.8	93.1	91.6	93.0	83.5	89.5	33.
Tennessee	97.2	96.2	94.5	95.6	88.6	94.0	31.
Southwest							
Oklahoma	86.0	89.8	94.0	87.8	86.8	90.3	30.
Texas	90.3	92.7	96.0	92.0	92.1	94.6	29.
Far-West							
Arizona	95.4	96.8	94.0	92.8	94.4	92.1	32.
New Mexico	95.2	97.4	98.4	95.6	96.9	98.3	34.
California	92.8	97.0	100.2	91.4	94.4	97.3	33.
All Others	95.3	92.4	91.0	96.0	85.5	87.3	32

GRADE INDEX is based on 15/16-in. Middling White equalling 100.

FINISHED COTTON GOODS

(Woven cotton goods over 12 in. in width, except tire fabrics—bleached, dyed, and finished.)

Total (1,000 yd.)	1939	1941	1943	1945	1946 Preliminary
dyed or printed	5,050,065	6,519,520	7,403,108	6,448,112	6,941,348
and white-finished	2,174,352	3,054,821	3,681,604	3,151,186	3,380,226
d and finished	1,431,938	2,112,435	2,479,416	2,127,721	1,883,361
nd finished	1,443,775	1,352,264	1,242,088	1,169,205	1,677,761

8.3 to 11.1	7.7 to 9.2	7.6 to 10.0
8 and 12	4 and 12	10 to 18
6 to 14	5 to 11	5 to 12
3/4 and 3/4	15/16 and 1	7/8 to 31/32
23/32 to 27/32	25/32 to 15/16	27/32 to 31/32
---	---	---
140 to 157	174 to 180	174 to 178
82 and 86	107 and 110	97 to 107
83 to 92	90 to 109	95 to 108
40 and 43	56 and 57	49 to 57
40 to 48	43 to 55	47 to 55
---	---	31 to 36
---	31 to 35	29 to 35
---	25 and 28	---
---	---	---
B+	B+	C+ to B+
B to B+	B to B+	B to B+
B	B	C to B
C+ to B	B	C+ to B+

LE LENGTH (1941-1946)

	Staple Length (32nd of in.)					
946	1941	1942	1943	1944	1945	1946
4.5	31.98	31.90	31.52	31.89	32.20	32.6
6.1	31.4	30.9	30.8	31.6	32.0	32.4
7.6	33.0	32.9	32.9	33.0	32.5	32.8
5.5	31.5	31.3	31.4	31.8	32.1	32.2
3.2	33.1	32.3	32.5	32.7	32.5	33.2
4.9	33.1	32.0	33.0	32.9	32.3	33.1
3.8	33.4	32.4	32.0	32.7	32.5	32.6
3.0	33.1	33.3	32.2	32.8	32.7	33.3
5.8	33.0	32.4	32.2	32.4	33.5	33.4
6.6	34.6	34.0	33.4	33.7	33.8	34.2
9.5	33.0	33.3	33.4	33.4	32.7	33.4
4.0	31.8	32.6	31.9	32.8	32.2	32.9
0.3	30.2	30.2	28.6	29.5	28.9	29.3
4.6	29.7	29.5	29.1	29.3	30.3	30.5
2.1	32.3	32.9	33.5	33.2	32.6	32.6
3.3	34.5	34.6	34.5	34.2	34.4	34.5
7.3	33.4	34.4	34.4	33.3	33.5	33.5
7.3	32.4	32.9	33.0	32.6	32.7	32.7

100. Figures are from Agricultural Statistics 1947.

CO

GRADE	1937
Extra White and White	
Good Middling and better	9
Strict Middling	67
Middling	1,39
Strict Low Middling	86
Low Middling	33
Strict Good Ordinary and Good Ordinary	10
Spotted	
Strict Middling and better	26
Middling	27
Strict Low Middling	13
Other Colored	23
ALL GRADES	4,38

COTTON

Cards

Combs

Slubbers

Speeders

8.6	8.3 to 11.1	7.7 to 9.2	7.6 to 10.0
	B and 12	4 and 12	10 to 18
13	6 to 14	5 to 11	5 to 12
	3/4 and 3/4	15/16 and 1	7/8 to 31/32
7/8	23/32 to 27/32	25/32 to 15/16	27/32 to 31/32
	---	---	---
	140 to 157	174 to 180	174 to 178
	82 and 86	107 and 110	97 to 107
97	83 to 92	90 to 109	95 to 108
	40 and 43	56 and 57	49 to 57
52	40 to 48	43 to 55	47 to 55
	---	---	31 to 36
	---	31 to 35	29 to 35
	---	25 and 28	---
	---	---	---
	B+	B+	C+ to B+
B	B to B+	B to B+	B to B+
	B	B	C to B
d B	C+ to B	B	C+ to B+

Sea Island	Long	Fine	Strong

OFFICIAL GRADE STANDARDS

Gray	Extra White	White			Spotted	Tinged	Yellow Stained
		Grade No.	Grade name	Abbrev-iation			
		1	Middling Fair	MF			
		2	Strict Good Middling	SGM			
GMG	GMEW	3	Good Middling	GM	GMSp.	GMT	GMYS
SMG	SMEW	4	Strict Middling	SM	SMSp.	SMT	SMYS
MG	MEW	5	Middling	M	MSp.	MT	MYS
	SLMEW	6	Strict Low Middling	SLM	SLMSp.	SLMT	
	LMEW	7	Low Middling	LM	LMSp.	LMT	
	SGOEW	8	Strict Good Ordinary	SGO			
	GOEW	9	Good Ordinary	GO			

STAPLE LENGTH (1941-1946)

		Staple Length (32nd of in.)					
1945	1946	1941	1942	1943	1944	1945	1946
91.8	94.5	31.98	31.90	31.52	31.89	32.20	32.6
96.5	96.1	31.4	30.9	30.8	31.6	32.0	32.4
94.5	97.6	33.0	32.9	32.9	33.0	32.5	32.8
92.9	95.5	31.5	31.3	31.4	31.8	32.1	32.2
90.1	93.2	33.1	32.3	32.5	32.7	32.5	33.2
88.9	94.9	33.1	32.0	33.0	32.9	32.3	33.1
92.5	93.8	33.4	32.4	32.0	32.7	32.5	32.6
89.0	93.0	33.1	33.3	32.2	32.8	32.7	33.3
94.5	95.8	33.0	32.4	32.2	32.4	33.5	33.4
92.9	96.6	34.6	34.0	33.4	33.7	33.8	34.2
83.5	89.5	33.0	33.3	33.4	33.4	32.7	33.4
88.6	94.0	31.8	32.6	31.9	32.8	32.2	32.9
86.8	90.3	30.2	30.2	28.6	29.5	28.9	29.3
92.1	94.6	29.7	29.5	29.1	29.3	30.3	30.5
94.4	92.1	32.3	32.9	33.5	33.2	32.6	32.6
96.9	98.3	34.5	34.6	34.5	34.2	34.4	34.5
94.4	97.3	33.4	34.4	34.4	33.3	33.5	33.5
85.5	87.3	32.4	32.9	33.0	32.6	32.7	32.7

equalling 100. Figures are from Agricultural Statistics 1947.

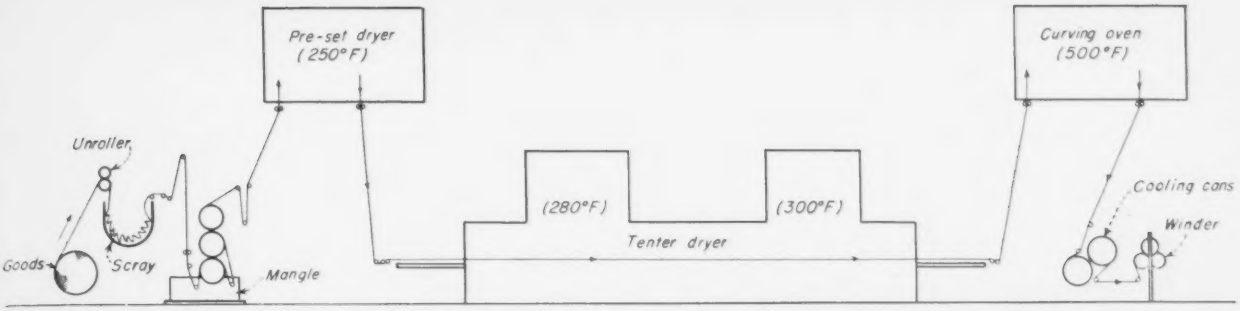
COTTON CARRY-OVER (1937-1947)

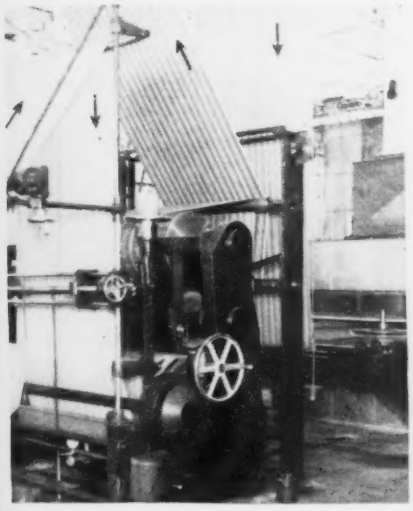
(in 1,000 bales)

GRADE	1937	1938	1938	1940	1941	1942	1943	1944	1945	1946	1947
Extra White and White											
Good Middling and better	99	133	195	179	198	77	70	90	64	36	52
Strict Middling	675	1,298	2,005	1,428	1,601	966	710	1,043	784	594	419
Middling	1,393	3,439	4,697	3,524	4,177	2,761	2,689	2,770	2,696	1,943	646
Strict Low Middling	864	2,685	3,073	2,858	3,225	2,852	2,861	2,970	2,954	1,720	489
Low Middling	333	1,165	1,052	734	731	1,174	1,524	1,397	1,469	760	242
Strict Good Ordinary and Good Ordinary	100	435	131	69	163	428	627	564	1,005	934	313
Spotted											
Strict Middling and better	267	714	609	702	806	622	494	489	574	261	27
Middling	275	889	814	651	677	775	793	702	774	356	48
Strict Low Middling	138	282	148	118	147	371	387	276	269	187	56
Other Colored	238	396	219	190	286	449	375	258	417	374	100
ALL GRADES	4,382	11,436	12,943	10,453	12,011	10,475	10,530	10,559	11,006	7,165	2,392

COTTON MACHINERY IN PLACE (Feb. 28, 1942)

Cards	90,582	Intermediates	700,060
Combs	7,245	Jacks	524,948
Slubbers	637,529	Spinning spindles	24,185,947
Speeders	1,962,868	Twister spindles	3,427,293
		Looms	522,127

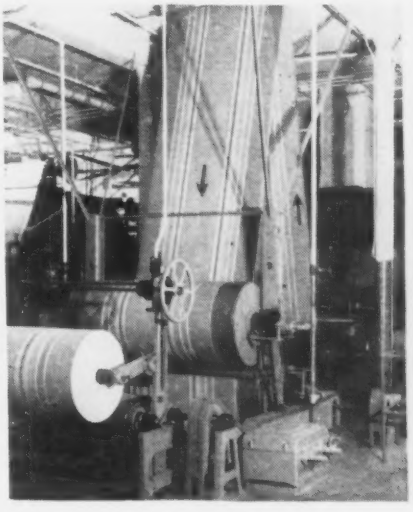




***Resin-curing range** dries and cooks resin finish through four stages of temperature: 250°, 280°, 300°, and 500° F. About 150 yd. of cloth is in the range continuously.*

GOODS ENTER HERE

COME OUT HERE



RESIN-CURING RANGE
Features High Speed and Heat

***HIGHLIGHTS:** Temperature up to 500° F. used to cure thermosetting-resin finishes at Avondale Mills—As a conventional tenter, the range runs at speeds up to 200 yd. per min.*

A HIGH-SPEED, high-temperature resin-curing machine, made to the specifications of the mill, is in operation at Avondale Mills, Sylacauga, Ala.

In addition to curing thermosetting resins that require high temperature, the equipment can be used for regular tentering at speeds ranging from 50 to 200 yd. per min. and for such processing as crease resistance, crush resistance, and shrinkage control. Finishing with solvents is also possible because of the safety devices incorporated.

Goods to be processed are mounted in roll form at the back of the curing range. The roll is unwound by a pair of unwinding rollers and delivered onto a scray. A Morrison 15-ton, 3-bowl, microset padder mangle applies the resin finish. The thread-up used at Avondale for resin application is: (1) under the first immersion roll, (2) between the two lower squeeze rolls, (3) under the second immersion roll, and (4) between the two upper squeeze rolls.

From the mangle, the goods enter a pre-set dryer, built by Andrews & Goodrich, located on the second floor. The air inside the dryer is maintained at 250° F. by steam coils.

A 60-ft. silent-clip Morrison tenter frame receives the goods from the pre-set dryer. The tenter is hooded and equipped for circulating steam-heated air. At the entry end, the temperature is set at 280° F.; at the delivery end, the setting is 300° F.

From the tenter frame, the goods enter the high-temperature curing oven built by Anderson & Goodrich. The oven was equipped by Ross Engineering Co. with an oil burner that holds the temperature of the oven at any point desired up to 500° F. The burner is provided with a safety control to cut off the supply of fuel if the flame goes out.

(If a type of finishing that does not require the use of high temperature is being done, the curing oven can be by-passed. The goods then go direct from the tenter to the cooling can or Simpson batcher.)

Resin-finished goods pass from the curing oven to a pair of cans cooled by circulating water, and to the Simpson cloth winder. Approximately 150 yd. of cloth is in the range at all times during processing.

Pigment dyeing can be done simultaneously with resin finishing. The pigment is mixed with the resin in the mangle.

Temperature is controlled automatically in the drying and curing compartments by controls working from a panel mounted near the range. The four control points are the pre-set dryer, the wet (or entry) end of the tenter, the dry end of the tenter, and the curing oven.

PADDING OPERATION
Has Many Variables

HIGHLIGHTS: *Weight of fabric, dye used, temperature, speed, pressure, all affect pickup—Wetting agents help in some cases—Equal takeup of dye and water desirable.*

By C. L. ZIMMERMAN and G. L. ROYER
Research Dept., Calco Chemical Div., American Cyanamid Co.

THERE HAS BEEN considerable emphasis in the textile industry during the past few years on high-speed continuous-dyeing processes. Most continuous-dyeing methods for piece goods make use of padders or squeeze rolls at one or more stages in the processing of the fabric; and for this reason, fundamental knowledge of the principles involved is needed.

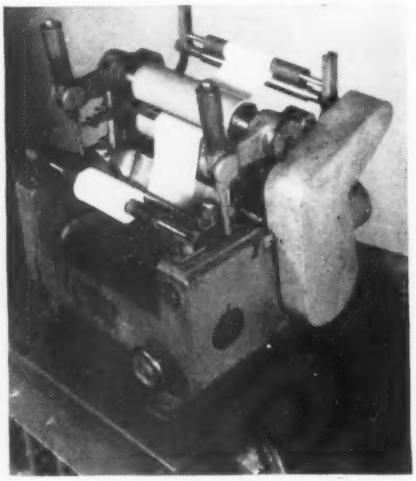
The amount of dye deposited on a particular fabric during the padding operation depends primarily upon (1) the concentration of dye in the pad bath, (2) the percent pickup, and (3) the ratio of solute (dye) to solvent (water) picked up. The first variable is easily controlled. The factors that control the last two variables, that is, pick-up and preferential sorption, are the ones to be explored here.

The construction of certain fabrics together with the nature of various dyeing processes often make it desirable to be able to increase the pickup, such as when dark shades are wanted.

On the other hand, it is often desirable to decrease the pickup, as when padding or squeezing is to be followed by drying. In some continuous-dyeing ranges, no provision has been made for drying between the padder and the developing bath; the less moisture the cloth retains as it leaves the padder, the greater and faster is the pickup of developing chemicals. In some cases, a decrease in the pickup may decrease the migration of non-substantive dyes before drying.

PERCENT PICKUP. The percent pickup is defined as the weight of the pickup multiplied by 100 divided by the weight of the cloth before padding.

Preferential sorption of either the dye or the dye solvent during padding may cause either (1) the padding solution to become progressively weaker and the shade of the padded cloth progressively lighter, or (2) the solution to become stronger and the shade of the cloth heavier. To overcome shading in such cases, feed baths must have a different proportion of dye from the starting bath. In ideal padding, both solvent and solute would be taken up in proportion to their concentration in the solution.



Experiments reported were made on this Butterworth 2-roll padder equipped with Thy-mo-trol speed control.

In order to express preferential sorption mathematically, a new term, "Dye Pickup Factor" (abbreviated D.P.F.), is proposed. The D.P.F. is defined as the ratio obtained by dividing the amount of dye actually on the cloth, as determined by analysis, by the amount of dye that should be on the cloth, as calculated from the pickup and then multiplying this fraction by 100. Thus, a D.P.F. greater than 100 shows that dye was exhausted from the pad box. A D.P.F. less than 100 shows that water was preferentially sorbed. Ideal padding would give a D.P.F. of 100.

VARIABLES. The variables in padding fall into three classes, those in which (1) the cloth is varied, (2) the dye bath is varied, and (3) the padder is varied. Results reported here were obtained, mainly, from 80x80, 4.00 yd., bleached, unmercerized cotton percale, and a 112x46, 3.50 yd., unbleached and unmercerized cotton poplin. Poplin was used more than the percale, since the percale wet out readily even under poorest conditions.

Pad liquor used contained direct dyes, pigments, vat leucos, and soluble vats. Padder used was the Butterworth 2-roll shown in the accompanying photograph. Two soft rubber rolls were used except as otherwise noted.

CLOTH. As is well known, cloth weight and porosity of a fabric influence the speed of wetting in padding. Table I shows results found for three fabrics.

It is important that cloth be in a highly absorbent condition before padding. This condition can often be obtained by an efficient scouring and can be aided by a pretreatment with wetting agents.

There were varied changes in percent pickup and D.P.F. caused by pretreating various types of cloth with 2 oz. per gal. of Aerosol OT (10%) at 158° F. and drying before padding. Little difference in pickup results from pretreating the lightweight percale, but a marked increase in pickup was obtained by pretreating the heavier poplin and duck.

DYE BATH. Just as in dyeing, padding varies with the class of dyestuff used. The concentration of the dye in the pad liquor has little or no effect upon the percent pickup regardless of the type of dyestuff used. As the dye concentration in the pad liquor is increased, the D.P.F. decreases only slightly in the case of vat pigment dispersions, but decreases quite markedly in the case of direct dyes, soluble vats, and vat dyes padded in the leuco state. When padding with water-soluble dyes, the dye should be in complete solution if uniform paddings are desired. The effect of the dye concentration upon the percent pickup and D.P.F. is shown in Table II.

A change in the pH of the dye bath appears to have little effect upon the percent pickup or D.P.F. in the padding of cotton fabrics with direct dyes and vat-pigment dispersions. When padding leuco vats, a variation in the concentration of caustic soda and sodium hydrosulphite appears to have no effect on either the percent pickup or the D.P.F., as long as there is enough caustic soda and sodium hydro-

This summary is condensed from forthcoming Calco Technical Bulletin No. 808 on "A Laboratory Study of Padding: Part I—Cotton." —*Editor.*

TABLE I—Effect of Cloth Construction on Padding

Type of Cloth	Calcomine Navy R		Calcosol Navy Blue Paste				Calco Soluble Vat Pink FF	
			Pigment Padded		Leuco Padded			
	% Pickup	D.P.F.*	% Pickup	D.P.F.	% Pickup	D.P.F.	% Pickup	D.P.F.
Percale	73	102	68	91	67	169	77	87
Poplin	18	109	19	88	22	173	19	100
Duck	6	57	4	94	8	308	6	92

* Dye Pickup Factor—see description in article

***Padding-liquor pickup** decreased as fabric weight increased.*

TABLE II—Effect of Concentration on Pickup

Concentration of dye	Calcodur Pink 2BL		Calcosol Navy Blue Paste				Calco Soluble Vat Pink FF	
			Pigment Padding		Leuco Padding			
Grams per 100 ml.	% Pickup*	D.P.F.	% Pickup*	D.P.F.	% Pickup*	D.P.F.	% Pickup*	D.P.F.
0.25	...	....	67	97	70	240	33	130
0.50	27	124	68	94	68	208	34	120
1.0	29	107	67	95	68	175	34	109
2.0	30	100	68	96	66	149	36	70
4.0	30	84	69	89	72	113	30	55
8.0	31	82	68	86	75	89	31	47

* The differences in percent pickup are due to the use of poplin when padding the two pink dyes and percale when padding the blue dyes.

*Dye **concentration** had little effect on the percent of pickup, but affects D.P.F.*

TABLE III—Effect of Temperature and Fabric Upon Padding

Temp. of the Padding Bath	Calcosol Navy Blue Paste							
	Pigment Padding				Leuco Padding			
	Percale		Poplin		Percale		Poplin	
	% Pickup	D.P.F.	% Pickup	D.P.F.	% Pickup	D.P.F.	% Pickup	D.P.F.
40° C.	67	94	31	83	73	153	32	113
60° C.	62	103	31	85	69	174	37	126
80° C.	59	110	30	92	66	211	31	131

***Effect of temperature** variation on pickup depends upon the fabric.*

TABLE IV—Use of Aerosol OT in Padding

Aerosol OT (10% clear) g. per liter	Calcomine Navy R		Calcosol Navy Blue Paste				Calco Soluble Vat Pink FF	
			Pigment Padding		Leuco Padding			
	% Pickup	D.P.F.	% Pickup	D.P.F.	% Pickup	D.P.F.	% Pickup	D.P.F.
0	22	101	19	93	22	184	22	92
5	29	100	26	98	23	179	35	86
10	36	96	32	97	28	153	37	86
20	42	97	38	96	32	144	44	89
40	53	99	50	95	41	127	54	90
80	55	102	58	99	52	114	57	87

***On poplin,** wetting agent increased amount of pad-liquor takeup.*

TABLE V—Effect of Speed Upon Padding

Speed of Padder Yd./Min.	Time of Immersion in Sec.	Calcomine Navy R		Calcosol Navy Blue Paste				Calco Soluble Vat Pink FF	
				Pigment Padding		Leuco Padding			
		% Pickup	D.P.F.	% Pickup	D.P.F.	% Pickup	D.P.F.	% Pickup	D.P.F.
10	0.7	27	113	27	97	19	156	29	100
20	0.7	30	113	29	94	24	143	32	88
40	0.7	33	111	32	82	27	149	36	82

***Pickup increased** as speed of padding increased. Fabric used was poplin.*

TABLE VI—Effect of Immersion Time Upon Padding

Speed of Padder Yd./Min.	Time of Immersion in Sec.	Calcomine Navy R		Calcosol Navy Blue Paste				Calco Soluble Vat Pink FF	
				Pigment Padding		Leuco Padding			
		% Pickup	D.P.F.	% Pickup	D.P.F.	% Pickup	D.P.F.	% Pickup	D.P.F.
3	1.82	32	105	..	..	..	..	35	84
3	4.75	39	99	..	..	..	..	41	81
3	9.60	40	104	..	..	..	..	45	81
28	0.21	25	109	20	98	23	114	28	99
28	0.54	32	100	20	94	22	156	32	93
28	1.09	35	101	22	77	25	154	37	89
45	0.13	26	105	20	105	23	108	27	96
45	0.34	31	103	21	88	27	126	33	91
45	0.69	35	100	22	82	27	156	36	88

***Dyeing rate** of color used influenced the effect of immersion time on percent pickup.*

sulphite present to keep the dye in a reduced state.

It appears that variation in pickup with the temperature of the pad bath is affected more by the type of fabric than the type of dye. When padding light-weight, easy-to-wet fabrics, the pickup decreases as the temperature of the pad liquor increases. This tendency for the pickup to decrease as the temperature of the pad bath increases is counteracted, when padding heavy, hard-to-wet fabrics, by the increased rate of wetting, as is shown in Table III.

The D.P.F. always seems to increase as the temperature of the padding bath is increased. The amount of the increase depends upon the dye. This increase of D.P.F. with temperature is due probably to an increase in the rate of dyeing usually associated with a temperature rise.

The addition of wetting agents to the pad solution will increase the percent pickup of fabrics which are difficult to wet out or penetrate. (Lightweight fabrics are affected but little.) The addition of a wetting agent usually has no effect upon the D.P.F.; however, in the case of vat leucos, the dyeing rate is usually reduced by these agents, and as a result, the D.P.F. is decreased. Effect of various amounts of Aerosol OT (10% clear) to the pad bath for padding poplins is shown in Table IV.

An increase in the viscosity of the pad bath usually results in an increase in the percent pickup. The D.P.F. does not appear to be affected uniformly by viscosity changes.

THE PADDER. Factors which determine the amount of liquid removed from or retained by the cloth during a passage through the squeeze rolls of a padder are:

1. The condition of the cloth or the degree to which it is wet out.

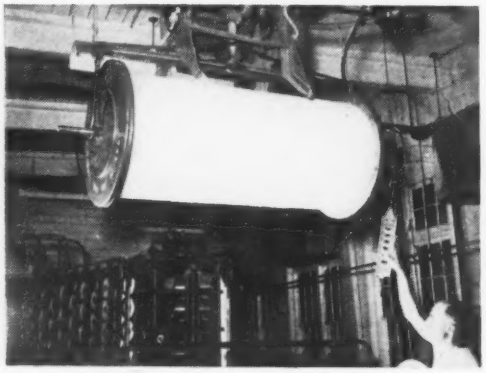
2. The construction of the cloth or resistance of the fabric to the flow of liquid.

3. The velocity of the cloth through the rolls.

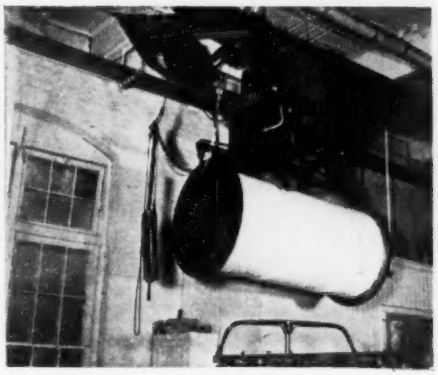
4. The pressure between the squeeze rolls which is controlled by the force applied, the hardness of the rolls, the size of the rolls, and the thickness of the rubber covering.

As cloth passes between the squeeze rolls of a padder, the dye solution begins to be squeezed out, and there are

(Continued on page 196)



1 ***Operator presses a button*** *in the Barber-Colman warper room, and a warper beam of 14s yarn starts on 323-ft. trip to Beaumont's slashers.*

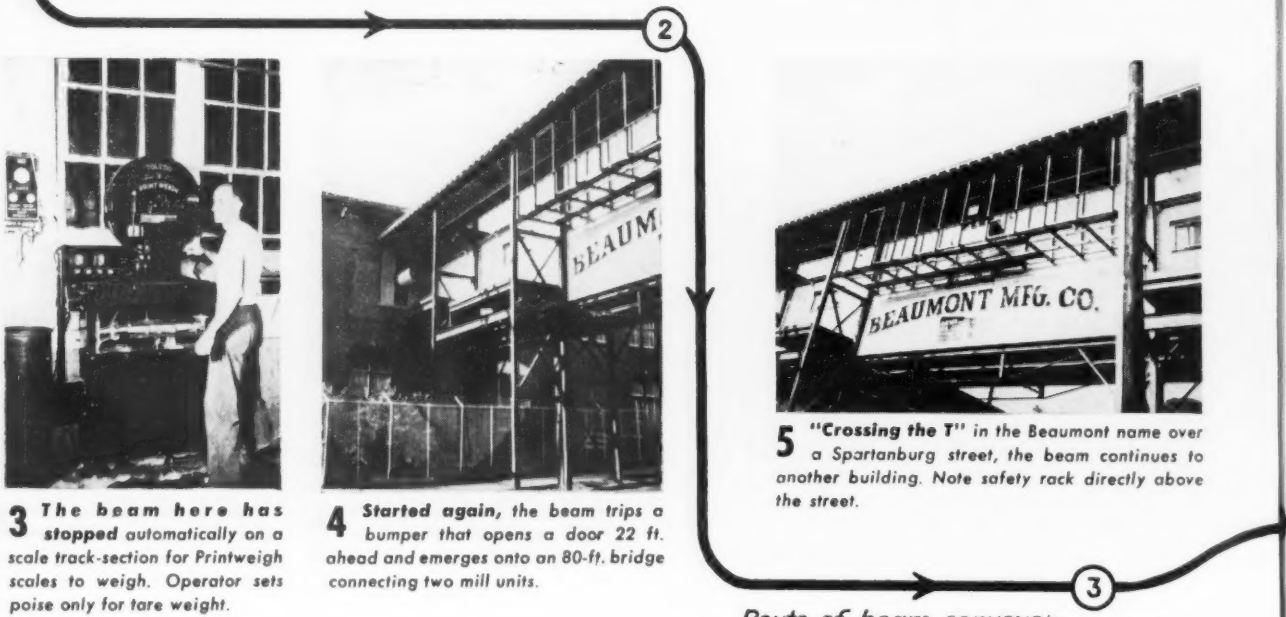


2 ***A half-minute, or 75 ft.,*** *later, the beam circles the wall of the spinning room. Its overhead run does not interfere with other operations.*

3 ***The beam here has stopped*** *automatically on a scale track-section for Printweigh scales to weigh. Operator sets poise only for tare weight.*

4 ***Started again,*** *the beam trips a bumper that opens a door 22 ft. ahead and emerges onto an 80-ft. bridge connecting two mill units.*

5 ***"Crossing the T"*** *in the Beaumont name over a Spartanburg street, the beam continues to another building. Note safety rack directly above the street.*



Route of beam conveyor

AUTOMATIC DISPATCH
Used for Transporting Yarn

HIGHLIGHTS: *Beaumont Mfg. Co. moves warper beams automatically on 323-ft. overhead track—Motor-driven carrier travels 150 f.p.m.—Net weight of yarn indicated and printed while beam rests on track.*

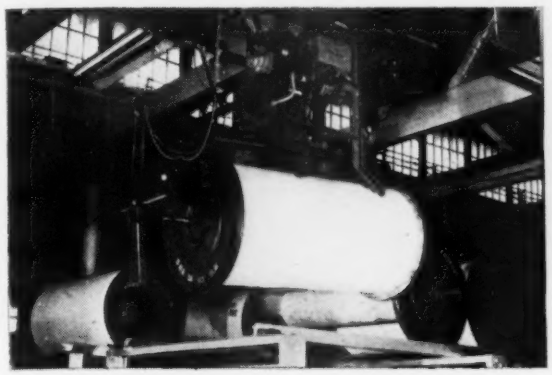
By C. MALLARD BOWDEN
Southern Editor, TEXTILE WORLD

FROM 75 TO 100 FULL WARPER BEAMS are automatically dispatched every 24 hr. from Barber-Colman and Cocker warpers of Beaumont Mfg. Co., Spartanburg, S. C., to its slasher-storage area 323 ft. away.

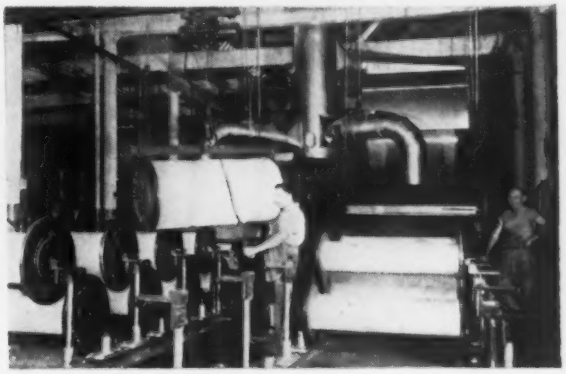
The beams alone weigh around 150 lb. each and hold about 500 lb. of yarn per beam. To move the 650-lb. package, Beaumont installed electrical conductor-bars in overhead tracks that mount a motorized carrier. To connect the warper rooms with slasher-beam storage, the tracks traverse an 80-ft. bridge that spans a street and joins two mill units.

TEXTILE WORLD's camera followed a beam of 14s yarn from one warper room to slasher storage. The photographs tell the story and follow a plan drawing of Beaumont's system.

Beaumont's Cleveland Tramrail equipment was installed by Engineering Sales Co. Its motor-driven carrier operates at a speed of 150 f.p.m. It has a ½-h.p. motor and four 5-in.

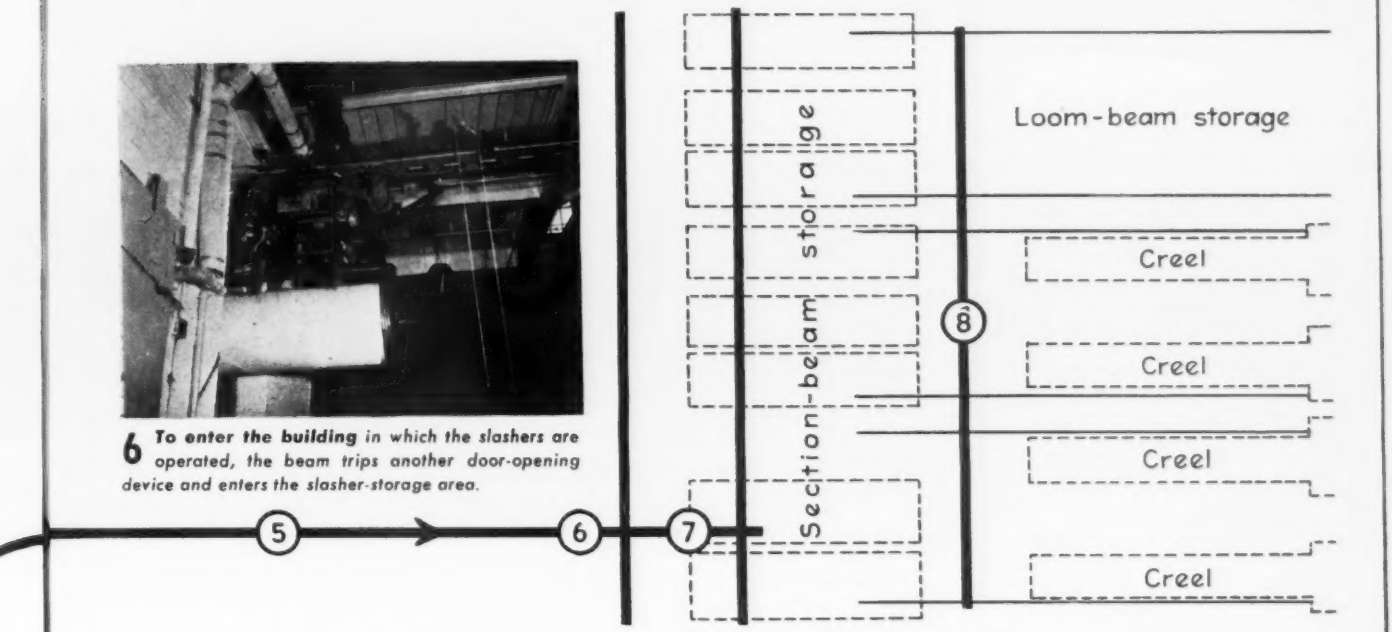


7 ***After a 323-ft. trip,*** *the beam of yarn stops automatically. A crane will store it in Beaumont's completely mechanized storage area.*



8 ***After temporary storage,*** *the beam is carried by crane to whatever slasher may be in need.*

6 ***To enter the building*** *in which the slashers are operated, the beam trips another door-opening device and enters the slasher-storage area.*



Photos by Mal Bowden

wheels that operate on the raised treads of the track. The capacity of the carrier is 1,000 lb. The hoist speed is 20 f.p.m., and its lift is 18 ft.

Built into the track, Printweigh scales of Toledo Scale Co. indicate and print weights automatically. Operators adjust the poise of the scales in order to cause the machine to subtract the tare weights.

The carrier has a 7-button pendant control-panel, with buttons marked "Raise," "Lower," "Forward Run," "Reverse Run," "Forward Inch," "Reverse Inch," and "Stop."

Beaumont planned the system with the slasher room as the focal point. Thus, the operator in the warper room presses the "Reverse Run" button in order to start a full beam on its trip. The "Forward Run" button starts an empty beam from slasher storage to warpers.

After starting from the warper, the carrier crosses the first warper room, enters the spinning room, circles the spinning-room wall, trips a bumper that opens a door, and stops automatically in the second warper room. There it rests on a special scale track, from which the Printweigh scales obtain and print the net weight of the yarn.

After weighing, the 650-lb. package passes through another door, crosses a bridge over one of Spartanburg's streets, trips another door-opening bumper, and stops at the slasher-storage area.

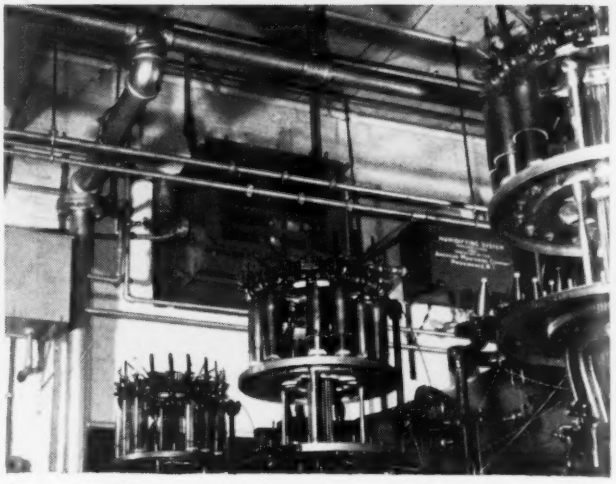
While the full beam is on its way to the slasher room, Beaumont's bridge transfer, or crane, is being lined and locked to the spur track where the carrier comes to a stop. The bridge transfer can then pick up the beam and move it to a storage position in the racks. Similarily, the crane picks up the beam and moves it to the slashers where manual control of the hoist permits operators to creel the beam in a slasher.

Since the system was designed with a permanent stop-switch in the second warper room, Beaumont has a flexible system that can be used by either of the two rooms for quick, automatic dispatch of beams to the slasher, and of empty beams from slasher to either of the two warper rooms.

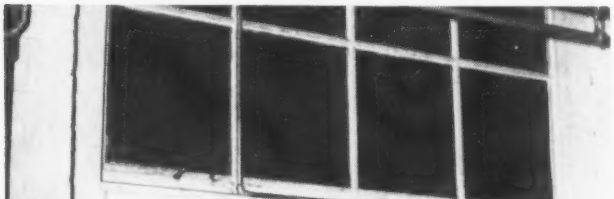
A safety switch kills 10 ft. of the conductor bars if the transfer bridge is not perfectly lined and locked to the spur track. The carrier stops when this switch operates and avoids moving off the track when the bridge is not in position to receive it.

The electric current supplied to the conductor bars is 220-volt, 3-phase, 60-cycle.

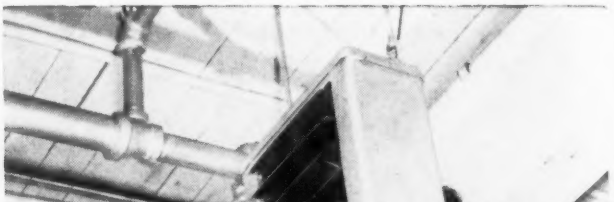
***This hollow-brass heat-actuated device** is Waldensian's fire-guardian. Eight of these in the knitting room will detect fire, cause alarm to sound, and water to enter sprinklers. They work through a rapid rise in temperature and are unaffected by a slow rise.*



***New sprinklers** located above Waldensian's half-hose machines vary in degree rating. This area has room-air exhaust fan; and intermediate-degree rating sprinklers of 100° to 150° F. are installed in this area.*



***Where cool air enters** the new knitting room at Waldensian's Pauline mill, sprinklers have ordinary-degree ratings of 100° F.*



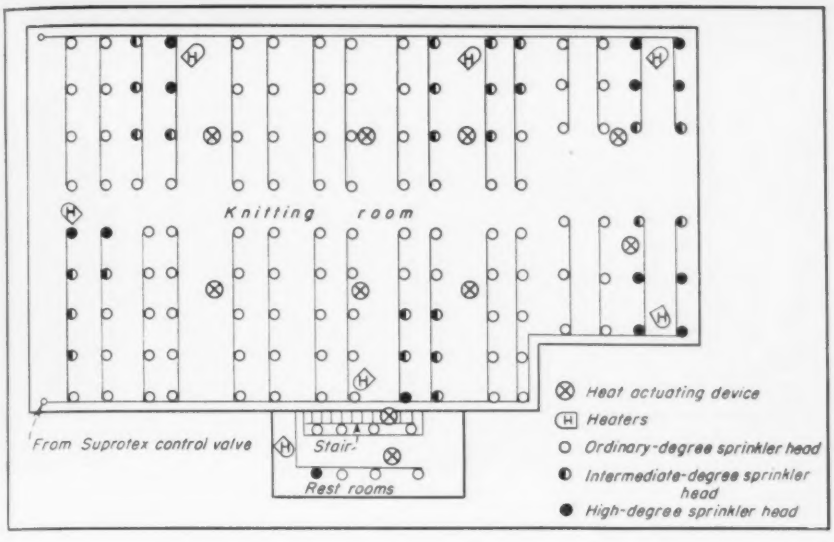
***In areas adjacent to heaters,** Waldensian sprinklers have high-degree ratings, are colored blue for identification.*

Hosiery Mill Has First RATE-OF-RISE Sprinklers

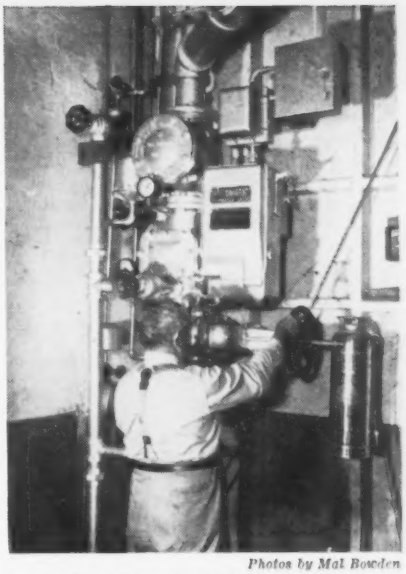
***HIGHLIGHTS:** Waldensian Hosiery Mills first in industry to extend rate-of-rise-actuated sprinkler system to knitting room—Hollow-brass chambers located in room to detect fire—Heat causes fire alarm to sound and water to enter sprinkler system that normally is dry.*

SHOULD A FIRE BREAK OUT in the new knitting room of Waldensian Hosiery Mills' Pauline plant, there are eight small sentinels waiting to sound a gong that will bring workmen to the fire. These eight sentinels are heat-actuated devices located on the ceiling. They transmit impulses to a release mechanism that sounds a gong in advance of sprinkler operation. The mechanism then opens a water valve to admit water to normally dry sprinkler pipes. Since the links in the sprinkler heads do not fuse until a predetermined heat intensity is reached, Waldensian workmen have time to snuff out small fires before the sprinkler goes into operation. They can save fire loss as well as water damage.

Waldensian's Pauline mill at Valdese, N. C., is said to be the first hosiery mill to install the Suprotex sprinkler system which combines dry-pipe sprinklers, rate-of-rise method of actu-



Floor plan of knitting room shows location of sentinels for fire system and ratings of sprinkler heads. Although a dry system, when it operates air is not blown on fire. Air pressure in the pipes is 1½ lb.



Photos by Mal Bowden

Control station for Waldensian's fire-protection system is located on basement floor, contains rate-of-rise mechanism.

ating valve opening, fire alarm before the fire becomes intense, and standard wet-pipe system of sprinker pipes and heads once the main water valve opens. In building the new addition, Waldensian expanded the Suprotex system to the new rooms, the most important of which is the knitting room. In this room, Waldensian manufactures a wide variety of fancy half-hose and 400-needle seamless hose on new and efficient equipment. [T.W., Sept. '48, p. 133].

The plan drawing and photographs indicate the location and operation of the Suprotex system at Pauline mill. This system, which was installed by the manufacturer, Automatic Sprinkler Corp. of America, includes the sentinel-like heat-actuated devices, conventional piping and sprinklers, and the Suprotex control station at the main valve.

FIRE DETECTION METHOD. The heat-actuated devices, which detect fire quickly and in advance of sprinkler operation, are small hollow-brass chambers located on the ceiling. They are connected to ⅛-in. copper air tubing that normally contains 1½ lb. of air pressure. Steel tubing surrounds and protects the copper tubing. The device has no moving parts; its operation is based upon the controlled escape of a confined body of air.

For example, when heat strikes the device, the rise in temperature expands the gas within it which results in an increase in pressure. The impulse is carried by means of the air tubing to a copper diaphragm. If the temperature rise is slow, the air pressure is relieved by compensating vents. If the rise is rapid, the vents are inadequate and the air pressure does its work. This pressure causes the control diaphragm to move, which in turn causes three things to happen:

1. The fire alarm sounds.
2. The Suprotex valve opens.
3. Water rushes in to the sprinkler pipes.

As mentioned, slow increases in pressure in the sentinel mechanism, such as may be developed by heating systems or in warm weather, are relieved by the vents. On the other hand, should the 1½-lb. supervisory pressure escape, the diaphragm is no longer held in its normal position; it swings back and by so doing opens the Suprotex value. Such a pressure loss would occur if the air tubing was to be broken or damaged. In this case, a special trouble alarm sounds; and workmen, seeing no fire, can locate and repair the damaged tubing without loss of sprinkler protection in the meantime. Similarly, there is a 1½-lb. supervisory air pressure in the sprinkler pipes. If this pressure falls due to any cause, the trouble alarm also sounds. The low air-pressure in the sprinkler system, however, is not enough to have a blowing affect on the fire in case the start of one sets off one of the sprinkler heads. The opening of a head, however, will turn on the water in event that for some reason the sentinels had failed to give advance notice and alarm.

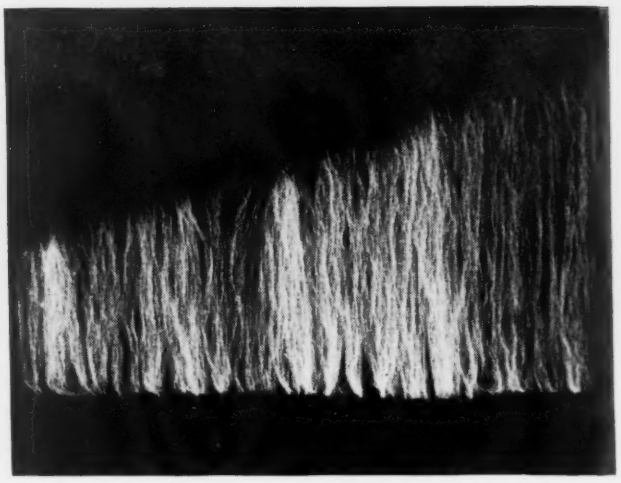
SPRINKLER TEMPERATURES. Once in the sprinkler pipes by action of the Suprotex system, the water does not emerge from the sprinkler heads until the temperature rise is sufficient to melt the protective links in the heads in the usual way. These links are of various degree-ratings. When sufficient heat melts the alloy, the links separate and allow the tension-held parts to open. Water emerges from the orifice and is deflected onto the ceiling, floor, and machines. There is no high-pressure compressed air to be blown on a fire through the sprinkler heads.

Because heat conditions at the ceiling of the knitting room vary, Waldensian has installed sprinkler heads of various degree-ratings. Adjacent to heaters, for example, the mill installed high-degree sprinklers which are generally used where ceiling temperatures do not exceed 225° F. but are greater than 150° F. Somewhat further away from the heaters, the mill installed intermediate-degree sprinkler that are usually employed where ceiling temperatures do not exceed 150° F., but are greater than 100° F. In most areas of the new knitting room, were installed ordinary-degree sprinklers. These heads are used where ceiling temperatures reach 100° F. They are said to fuse at 165° F.

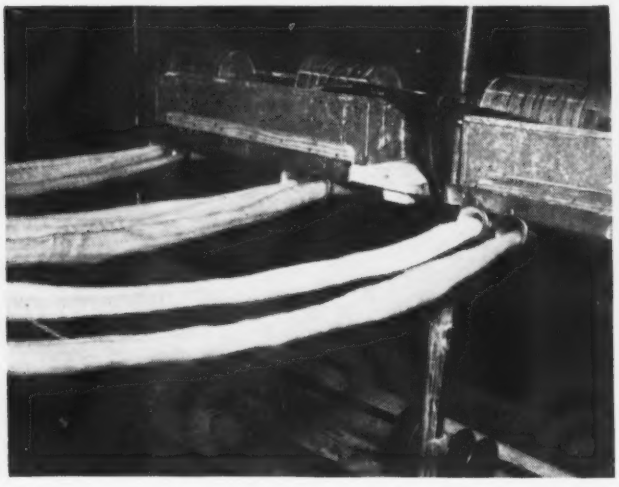
The floor plan shows the locations of sprinkler heads, the degree-ratings of which are identified by appropriate symbols. The location of the eight heat-actuated devices and the space heaters in the knitting room is shown, and their locations in supplementary areas such as stairways and rest rooms appears as well.

Waldensian combines the advantages of dry-system piping with flexible and alert fire-control. For further protection, the mill has a special monitor that sounds a trouble siren when the main supply water valve at the Suprotex control is closed or partially closed.

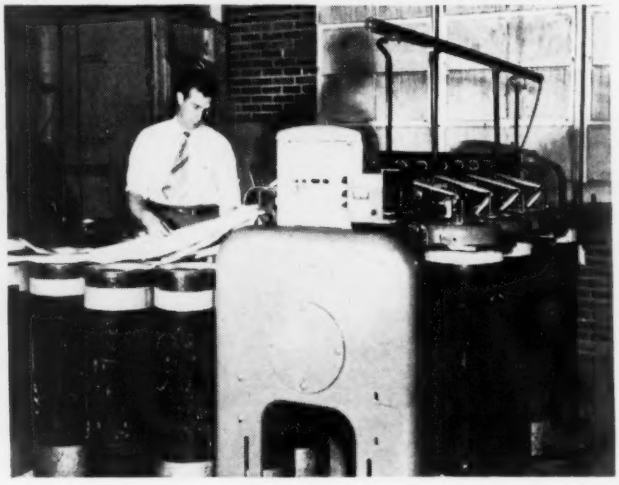
Combed wool top *arrives at Delaine Worsted Mills in ball form and receives 3-sec. regain check by electronic tester.*



A pulling of 3½-in., 64s wool arrayed on velvet board shows uniformity of fiber used.

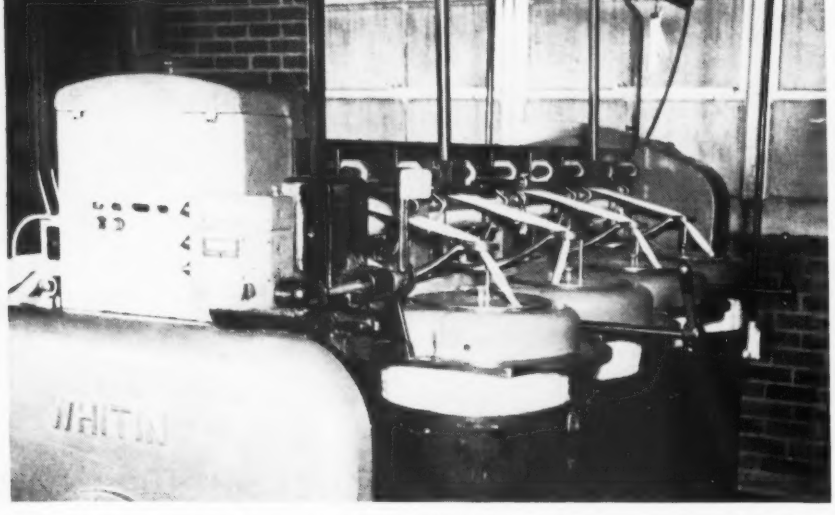


Wool tops are creeled double *behind breaker drawing frame as a result of modifications which permit extra doubling, produce more evenness.*



Weight of each can *from breaker drawing is carefully checked and recorded. Delaine's president, Milton Tager, inspects cans behind second drawing process.*

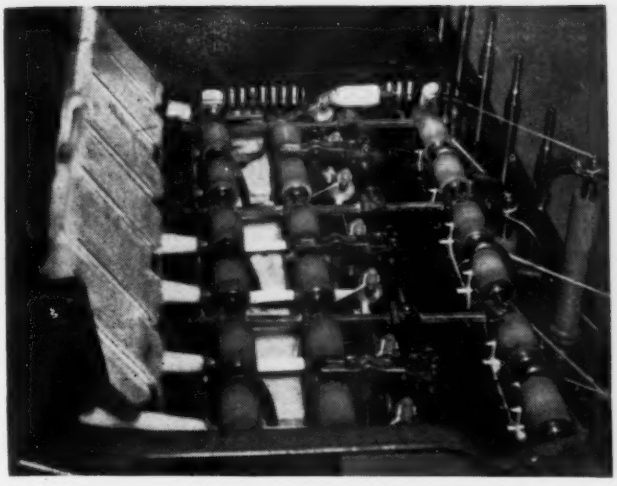
American System Used



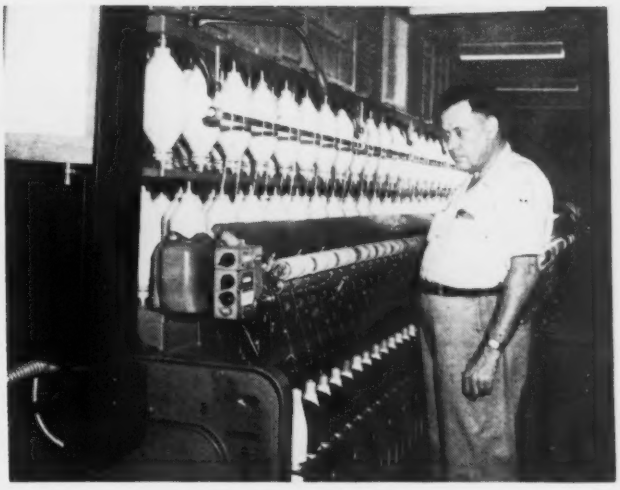
Third drawing process *has new knockoff, modified flutes and collars, produces 60-gr. sliver.*

HIGHLIGHTS: *Delaine Worsted Mills' new plant at Gastonia, N. C., spins 54s worsted and 60s nylon from 3-in. staple on modified American-system machines — Doublings increased at breaker drawing on longer-than-usual wool of 64s and finer—New knockoff added; weighting, flutes, and collars modified.*

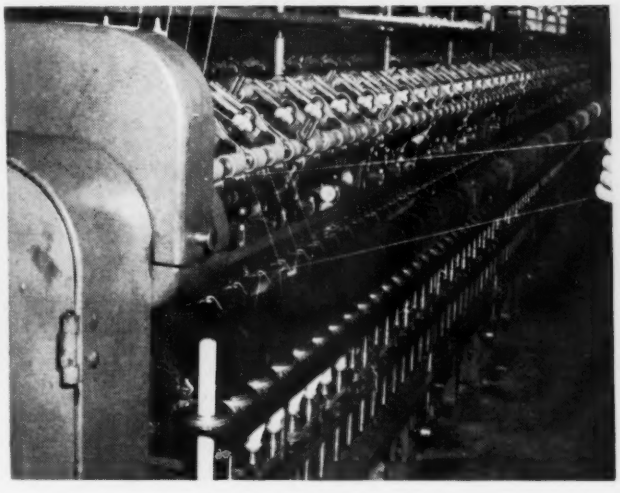
DELAINE WORSTED MILLS, of Gastonia, N. C. spins worsted and nylon-staple yarns of unusual evenness and strength on new Whitin American-system machines that have been modified by Delaine technicians. The



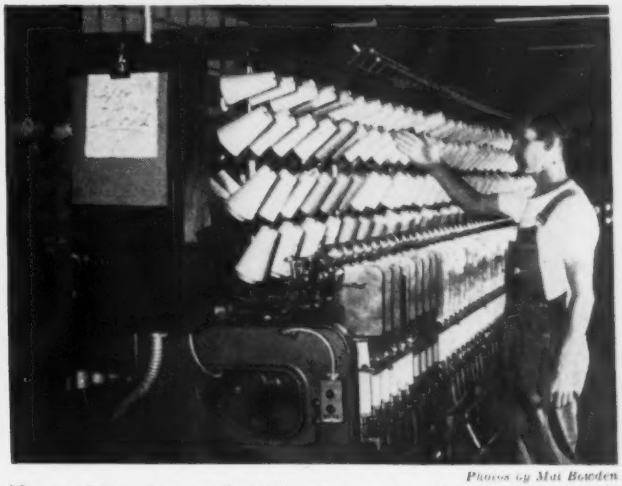
***High-draft roving** process has selvage guide made of nylon behind front roll. Nylon staple processing starts here.*



***Worsted is spun** on American-system frames. Superintendent Cashion checks unwinding qualities of worsted roving.*



***High-twisted nylon** yarn on partially creeled frame will continue to run while operator holds yarns 3 ft. from thread guide.*



Photos by Mat Bowden

***New twisters** have roll-clutch stop motion that enhances final quality of cone-creeled worsted yarn. Nylon yarn also is plied on twister.*

For FINE WORSTEDS

new mill, a subsidiary of Associated Spinners, Inc., New York, N. Y., extends the American system to fine yarn counts and long staple lengths. Some of the mill's modifications are used in French and Bradford plants. But the changes maintain the relatively low cost of worsted manufacture characteristic of the American system; and no changes have been made in the use of large packages.

Careful selection of wool top is the first requirement at the Delaine mill. Only the longer combing wools of 64s-and-finer grade are processed. The minimum requirements are 2½-in. staple length, and low short-length content. The mill's finest yarns are made from 3-in. wool. This length permits the mill to spin with greater strength or with less twist for equal strength. The range of counts is also

By C. MALLARD BOWDEN
Southern Editor, TEXTILE WORLD

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extended to approximately 54s worsted count.

A typical pulling of Delaine's wool top is shown. The "square" shape of the array is an indication of uniformity. The relative absence of short lengths in the top eliminates troublesome "bunching" of fibers during the drafting operations, foretells better fiber control during all manufacturing operations, and results in better and more uniform yarn. Before processing begins, all wool lots are tested for moisture content by a Moisture Register Co. 3-sec. electronic tester.

DELAINE UNIT. Since longer wools command a premium price, Delaine Worsted Mills planned and modified its equipment so that it would blend multiple lots of wool, a function heretofore considered peculiar to the multiple-processing systems. The new mill at Gastonia is called a "package unit" because its production capacity facilitates the handling of multiple lots. At 15,000 lb. per week, for example, the mill blends and processes approximately two lots of wool top in two weeks. The blending of lots reduces the cost of lot run-outs such as incurred during partial creeling of frames or special cleaning of machine parts.

If a one-lot production system were followed, the mill would have to make twice as many detailed changes in machinery setting, etc., all time-consuming tasks. Thus, the new mill's

(*Continued on page 198*)

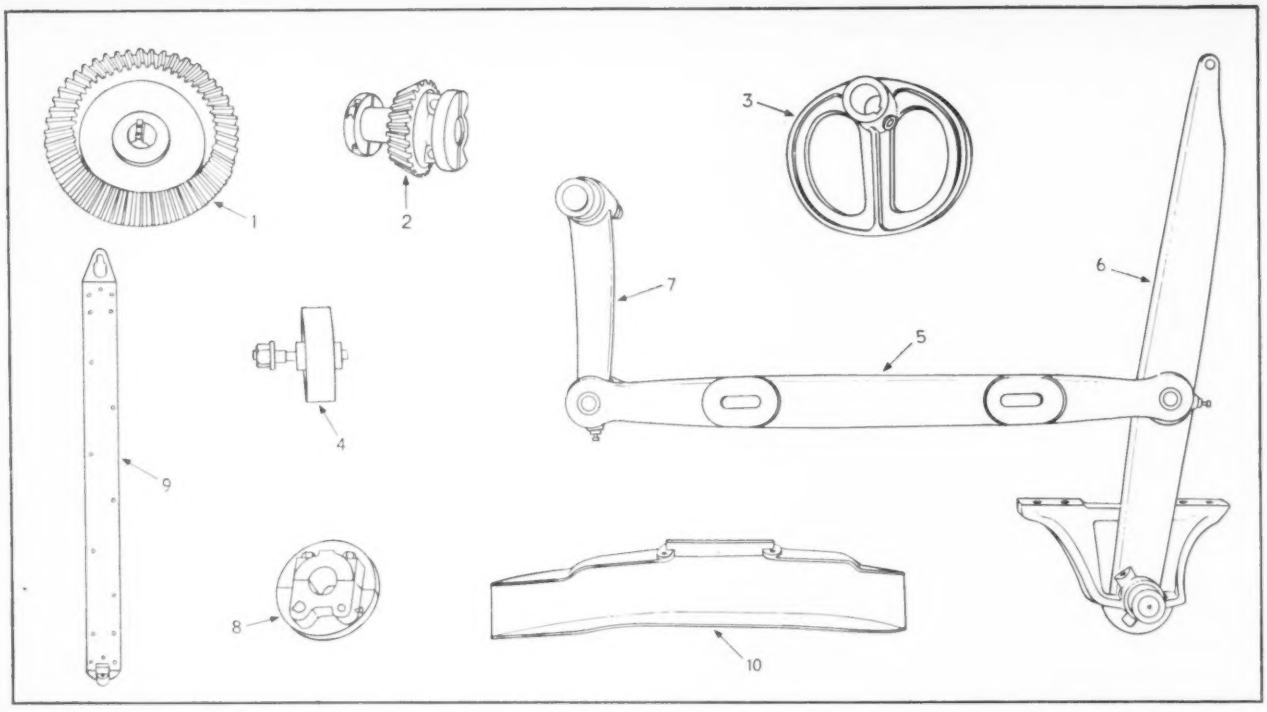


***Fig. 1. Principal coulier-motion parts** are: (1) bevel gear, (2) bevel pinion, (3) draw cam, (4) roller and stud, (5) Pitman, (6) long rocker arm, (7) short rocker arm and eccentric stud, (8) clutch, (9) brake band, and (10) oil pan.* *Illustrations courtesy of Textile Machine Works*

COULIER-MOTION SETTING
Is Skillful Operation

***HIGHLIGHTS:** Coulier motion transforms rotary movement to reciprocal movement—Setting draw rolls to cam and timing the clutch are tasks for an expert—Lost motion in coulier may cause fabric defects.*

By H. B. LeFEAUX
Consulting Editor, TEXTILE WORLD

THE COULIER MOTION is one of the most important motions on a full-fashioned knitting machine. This motion is a means for transforming rotary movement into reciprocating movement. It controls the movement of the carrier rods through friction boxes and of the jack through the slur cams. Upon its correct action depends the successful operation of the knitting heads.

The two most important settings of the coulier motion are the placing of the draw rollers in relation to the cam and the timing of the clutch in relation to the slur bar and catch bar. Extreme care must be taken in leveling the Pitman if the coulier motion is to be properly set.

To set the Pitman, turn the machine until the coulier cam is up (the split of the cam is exactly vertical). On Reading machines, this can be checked where the coulier cam is of the split type by using the milled groove in the cam as a reference point. Drop a plumb line from the upper part of the machine through this groove and along the split of the cam.

SETTING THE ROLLS. In this position, one roller will be against the cam and there will be a small space between the cam and the other roller. Measure this distance (Fig. 2) with a feeler gage.

Now turn the machine until the cam goes through 180°, or to its downward position. See that the split of the cam is exactly vertical; then measure the distance between the cam and loose roller with a feeler gage. If the thickness is the same as previously measured on that roller when the cam was up in the vertical position, the eccentric stud is correct. If the thickness is not the same, the eccentric stud must be reset.

It takes only a slight adjustment on the eccentric stud to change the setting of the rollers in relation to the cam. In some cases, several attempts are made before the exact feel is reached on both rollers. It is important that the draw cam, rollers, bushings in the short and long rocker arms, bevel gear, and pinion be in good condition. Any lost motion due to excess wear of these parts will aggravate setting or leveling the Pitman.

The two coulier rollers must be set as close as possible to the cam without binding on any part of the cam during a revolution of the cam. When the coulier cam changes from one roller to the other, the distance between the two rollers should be at a minimum.

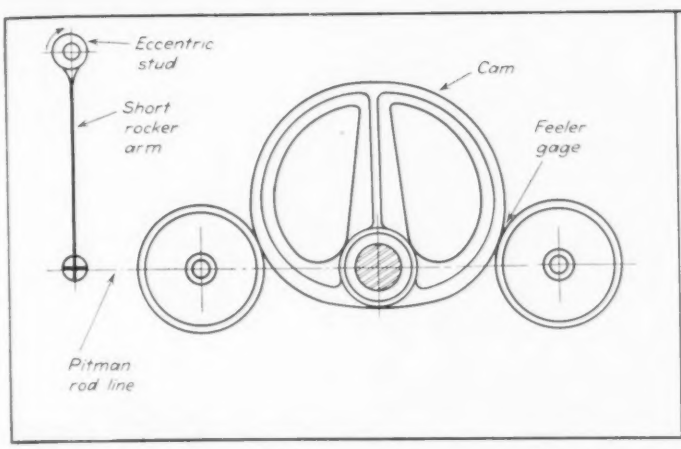


Fig. 2. The draw roll to the right is gaged to the cam while the cam is in its up position. The left-hand roll is gaged when the cam is down.

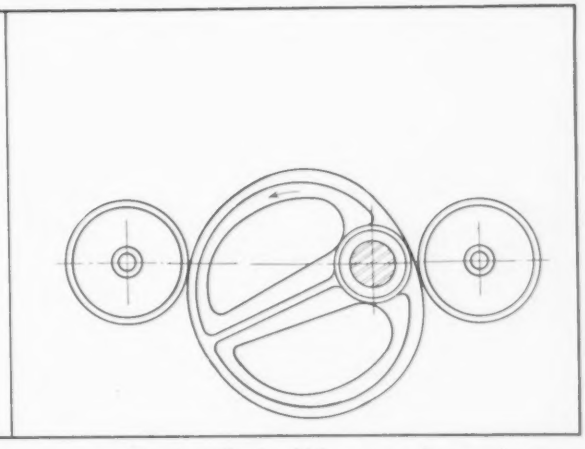


Fig. 3. Rolls should be set as close to the cam as possible without binding.

As the cam leaves one roller, it should immediately contact the other on the return stroke of the slur bar.

TIMING THE ROLLS. Rollers should rub the cam slightly at the highest point on the cam, Fig. 3. If the machine is out of time, the carrier lead is greater on one side than on the other or the rocker rollers fall off the cams sooner on one side than on the other.

It is good practice to coulier the machine by starting from the right side of the machine and going toward the left until three sinkers have been thrust completely forward. It takes at least six or eight heads to establish an average because it is possible that a slur cock may be off center a little and those particular heads cannot be used for measuring the uniformity of the stroke.

After the three sinkers are forward, hang the adjustable cam gage on the presser shaft and set it where it coincides with the split of the back catch-bar cam. Now coulier the machine again until it has reached the end of its travel and starts back. Stop when three sinkers have again been slurred completely forward, and place the cam gage on the presser shaft again and see if the split of the cam (back catch bar) lines up with the gage as it did on the previous stroke.

If the gage coincides with the split of the back catch-bar cam as it did on the previous stroke, the draw rollers are in correct relation with the cam. Should the gage show that the split of the cam has passed the gage about ¼-in. or the camshaft appears to be early, the roller that is then making contact with the coulier cam must be moved in toward the cam. If the split of the cam is about ¼-in. late in lining up with the gage, the roller making contact with the coulier cam must be moved away from the cam.

In many cases, when either roller is moved in or out to adjust the timing of the machine, it is necessary to move both rollers the same amount in order to keep the minimum clearance.

TIMING THE CLUTCH. The clutch controls the movement of the catch bar in relation to the slur bar. Many fixers differ as to the exact time the catch bar should start moving forward. On some older machines, it was decided that the catch bar should start moving forward when the last two or three sinkers start coming out. This procedure showed that the slur bar had ample time to clear the jacks before the catch bar started backward.

On the new Reading machines equipped with the welt turner, it is most important that the timing of the clutch be right. The fixer should coulier the machine until the last sinker in the head has been slurred completely forward. Then the adjustable hook gage (Fig. 4) is set 9/16 in. below the front catch-bar (F-C) line. The gage is then hung over the presser shaft. The gage must now line up with the split of the back catch-bar working cam B-8290 (Cam B-5237-5 on machines prior to 1945 type).

If the camshaft is early, the clutch should be loosened and the machine backed up. If the camshaft is late, the clutch should be loosened and the machine moved forward. Care must be exercised that the desired amount of space between the bevel pinion and the clutch is always maintained as specified by the machine builder.

OTHER PARTS. Brake bands should be examined regularly for grease and oil and should be cleaned if they are oily. They should be kept tight enough to insure satisfactory operation of the clutch. When the narrowing operation takes place, it is necessary that the coulier motion be stopped for

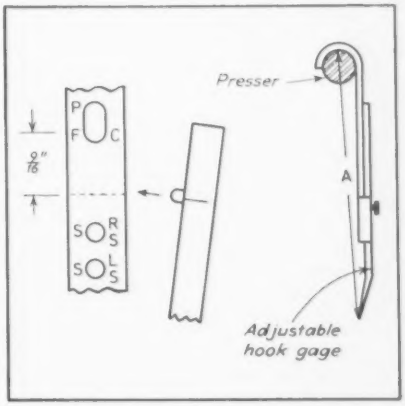
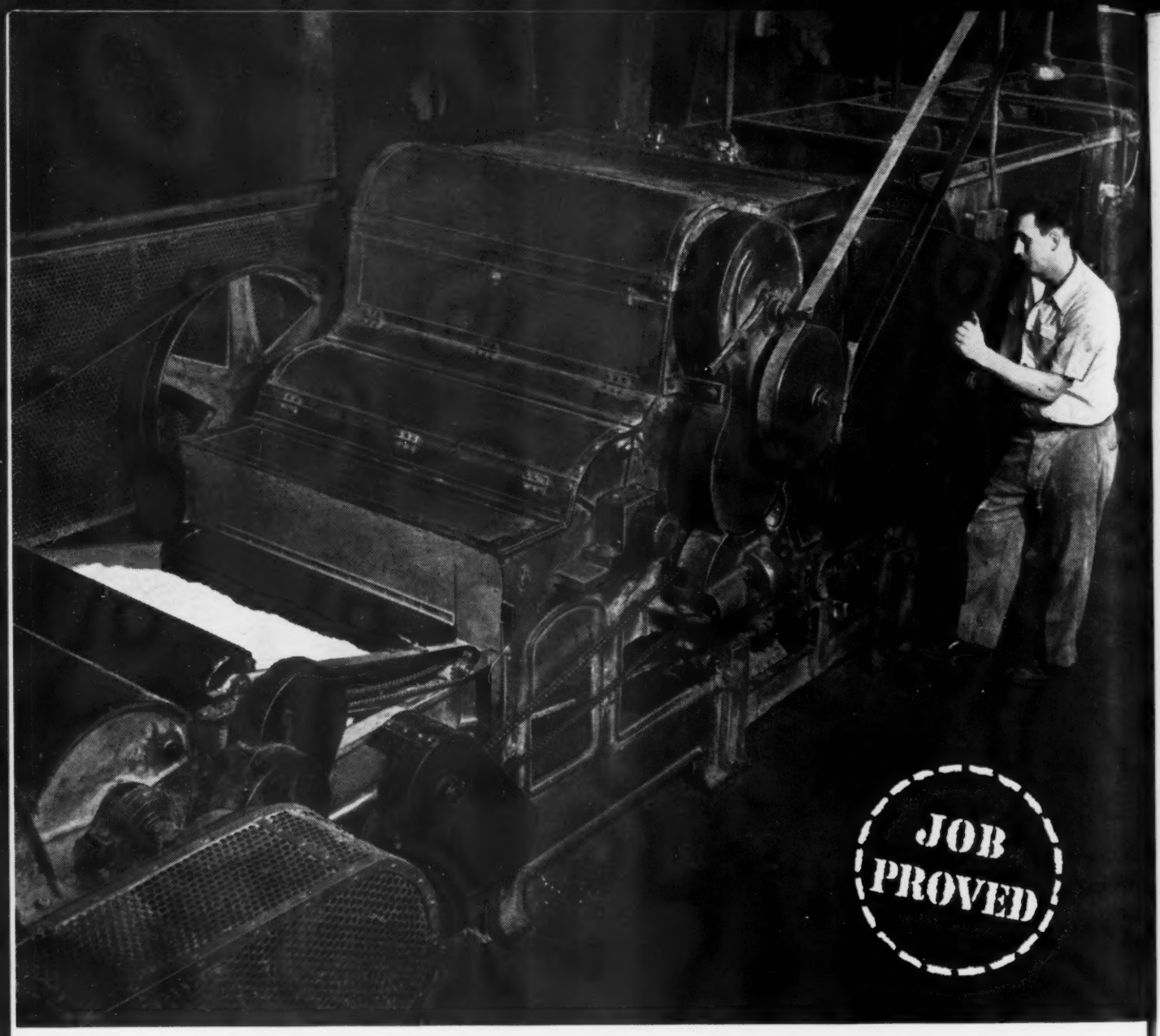


Fig. 4. Timing the clutch on a late-model Reading machine is done with an adjustable hook gage. The gage is set 9/16 in. below the front catch-bar line.

one complete revolution of the camshaft. The brake band must be tight enough to hold the bevel gear stationary in order to keep it from turning during the narrowing operation.

The proper meshing of teeth of the bevel gear and pinion is also important. Heavily worn teeth on the gear and pinion result in an erratic coulier movement and may affect the quality of the fabric. This wear can be traced, in most cases, to the condition of the friction boxes. Usually, the boxes are too tight and place undue strain on the coulier motion.

Bad selvages often result indirectly from the coulier motion. The entire motion should be checked regularly to see if the draw cam is loose, bevel gear loose, the draw rollers worn, or the bushings of any parts worn. Care should be taken too to see that the oil pan has enough oil in it for the draw cam to pick up sufficient oil on each revolution. Wear between the roller and cam can be prevented in this way.



ENDS CORROSION TROUBLES

Sun Textile-Processing Oil Solves Tough Problem for Cotton-Goods Manufacturer—and Profits Him More Ways Than One

A manufacturer of cotton fabrics was having corrosion troubles in his textile machines because of the processing oil being used. Yet it was an expensive oil. Moreover, it had to be sprayed on the fibers by special, rented equipment.

At the suggestion of one of our engineers, the manufacturer switched to a Sun Textile-Processing Oil, widely "Job Proved" in the industry, and absolutely noncorrosive. It proved to be just the oil he was looking for. It gave his fabrics the necessary quality, speeded production, widened the profit margin. It reduced the cost of processing-oil approximately $1,000 a year. And it enabled him to replace the rented equipment with low-cost, standard machines.

Sun Textile-Processing Oils have always enjoyed a favored place in the industry. In protecting machinery, reducing maintenance, improving quality and raising output, these oils have "Job Proved" superiority. They are easy to mix, easy to use. They form stable emulsions, do not turn rancid. Whatever the fiber or operation, there is a Sun Processing Oil to lighten your production problems. For full information, call the nearest Sun Office.

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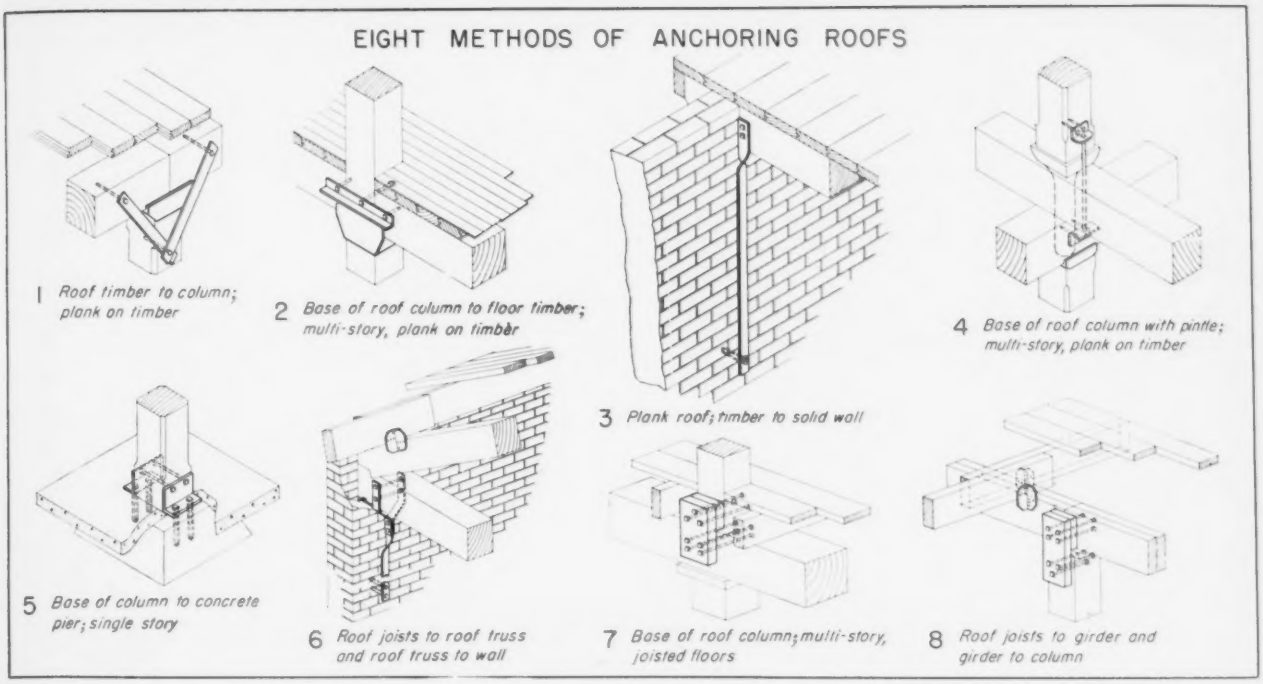
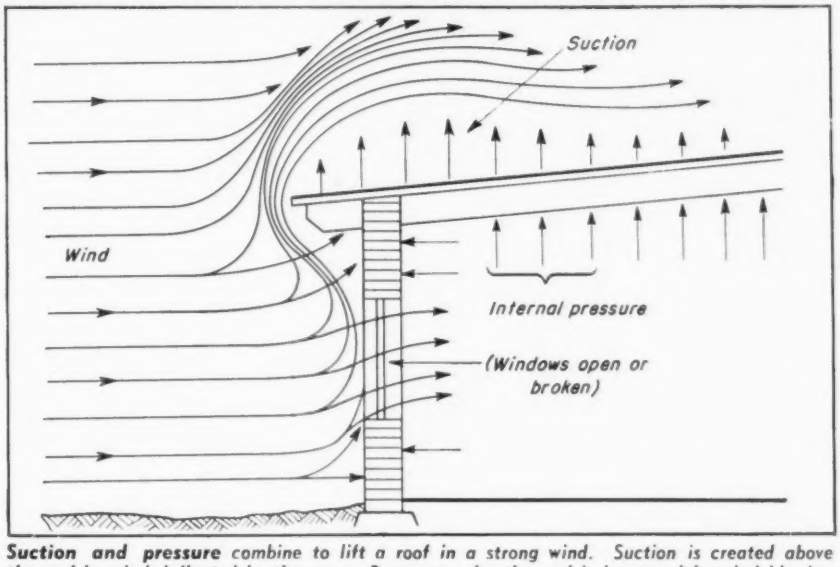

EIGHT METHODS OF ANCHORING ROOFS
1 Roof timber to column; plank on timber
2 Base of roof column to floor timber; multi-story, plank on timber
3 Plank roof; timber to solid wall
4 Base of roof column with pintle; multi-story, plank on timber
5 Base of column to concrete pier; single story
6 Roof joists to roof truss and roof truss to wall
7 Base of roof column; multi-story, joisted floors
8 Roof joists to girder and girder to column

DAMAGE to ROOFS
By Wind Can Be Minimized

HIGHLIGHTS: *Three-fourths of all wind damage to mill buildings happens to roofs—Roof anchors can save 55% of the total mill damage; good roof covering, 20%—A hurricane does the same kind of damage as windstorms except tornadoes.*

By P. M. THOMAS
Associate Editor, TEXTILE WORLD

Data and sketches provided by the Associated Factory Mutual Fire Insurance Cos.



Suction and pressure *combine to lift a roof in a strong wind. Suction is created above the roof by wind deflected by the eave. Pressure under the roof is increased by wind blowing into the building.*

ROOFS ACCOUNT for 75% of all wind damage to textile mill buildings. Nearly two-thirds of this damage—about 55% of total damage—results from faulty roof construction; the damage occurs when the roof structure is lifted by wind. The rest of the roof damage—about 20% of total damage—occurs to roof covering and flashing.

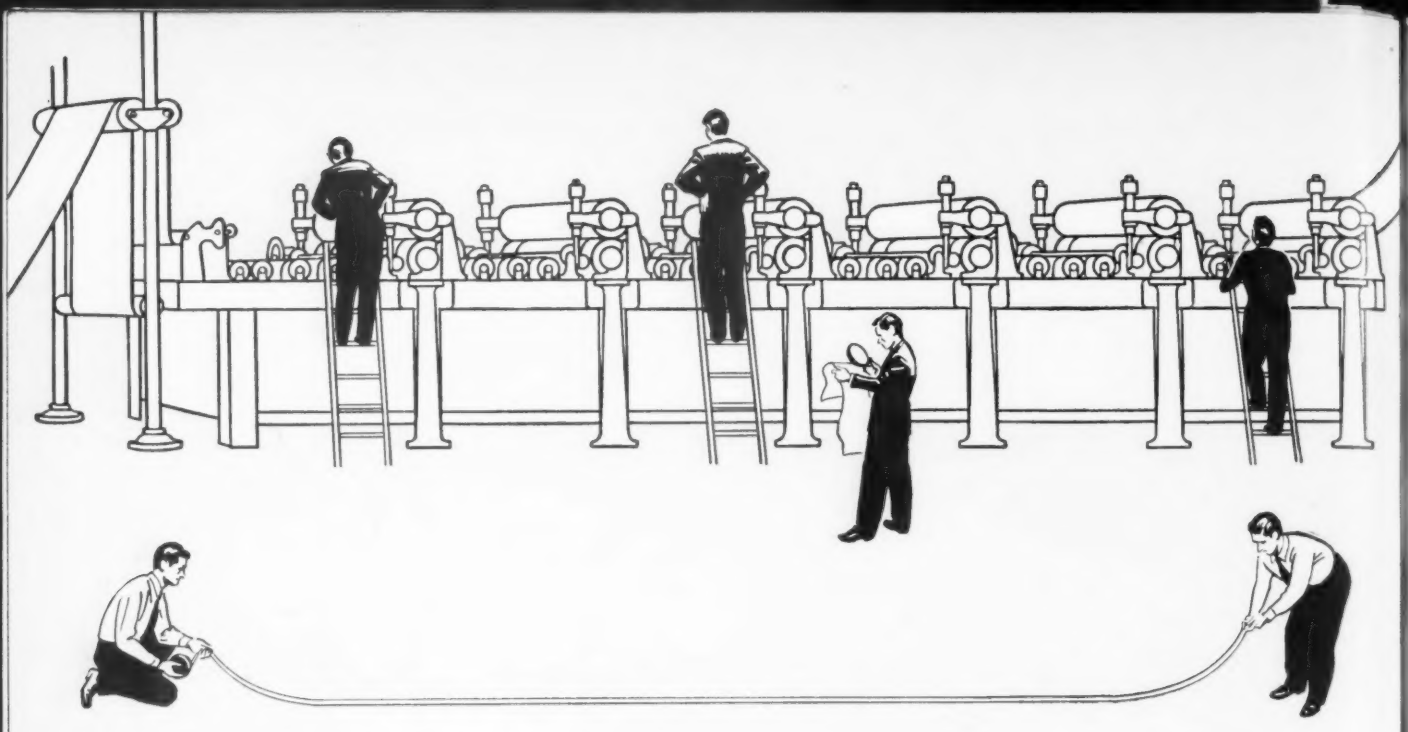
Roof damage follows the same relation to total damage in any straight-away wind—a prolonged windstorm, gusty squall, or hurricane. In a hurricane, 75% of the damage still occurs to roofs; only the dollar value of damage is increased. (Loss by tornado is unpredictable and is not included in this breakdown.)

These figures, based on a 5-yr. record by the Associated Factory Mutual Fire Insurance Cos., reveal that:

1. The lack of proper roof anchorage is the greatest cause of wind loss.
2. Built-up coverings — either smooth surface or tar and gravel—are serious maintenance items.

CONSTRUCTION MISTAKES. When most present mills were built, improper protection against wind was provided. It was thought until a few

(Continued on page 216)



Want to add 128 years to your experience?

How would you like the assistance of trained textile finishing experts on your mill staff backed by 128 years of experience at no extra cost to you? Every time you buy a Butterworth Machine, you receive the full benefits of 128 years of experience in the wet end of textile finishing—an experience unequalled in the textile industry.

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New PTI building is visualized by the architect as looking like this when viewed from the northeast.

PTI Expands Program, Starts New Buildings

***HIGHLIGHTS:** Courses expanded—Work in mills is graduation requirement—Private and government research undertaken—Normal 275 capacity expanded to 475 plus 400 in evening classes—Foundation raising $2,000,000 more.*

By HOWARD P. GALLOWAY

Changes in Type and Number of Courses of Study Offered by Philadelphia Textile Institute — 1938-1948

Courses Offered in 1938	Courses Offered in 1948
Weave Formation	All courses listed under 1938 PLUS the following:
Fabric Analysis	
Color Harmony	English
Freehand Drawing	Public Speaking
Jacquard Design	Economic History of U. S.
Cotton-Yarn Manufacture	Engineering Drawing
Woolen-and Worsted-Yarn Manufacture	Algebra
Silk and Rayon Manufacture	Trigonometry
Warp Preparation and Weaving	Physical Education
Knitting	Modern Literature
Chemistry (several courses)	Analytical Geometry
Dyeing	Calculus
Finishing	Business Administration
Bleaching	Textile Economics
Printing	Physics
	Mechanics
	Industrial Psychology
	Microscopy of Fibers
	Production Control
	Textile Testing
	Marketing
	Textile Costing
	Textile Styling
	Spectroscopy
	Colorimetry
	Color Matching
	Organic Analysis

A FEW WEEKS AGO, in a ceremony attended by an impressive group of textile-industry leaders, ground was broken for an important textile "power plant." On Sept. 15, on a 12½-acre site located a bare 20 min. from the heart of Philadelphia, construction was begun on new buildings which within a year will house the Philadelphia Textile Institute.

While the breaking of ground for new buildings is vastly important to the institute's expanding program, it is only one of a number of steps which have been taken over the years to keep PTI in step with the industry's development and in tune with its changing needs for technically trained manpower.

Within the last decade, for example, many improvements have been instituted. A board of governors has been formed, comprised of top-notch executives in all branches of the industry, to guide major policy decisions. The Philadelphia Textile Institute Foundation has been formed to obtain financial support. The institute faculty has been enlarged from 22 to 42. The institute has achieved acknowledged collegiate status and

(*Continued on page 188*)

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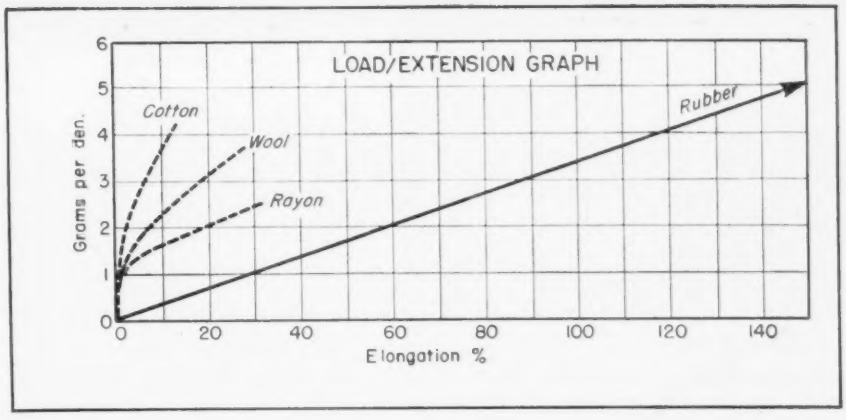


***Fig. 1. Load-elongation** curves show rapid elongation of rubber under small loads as compared with scant change in cotton, wool, or rayon under 1 g. per den. Curves are averages.*

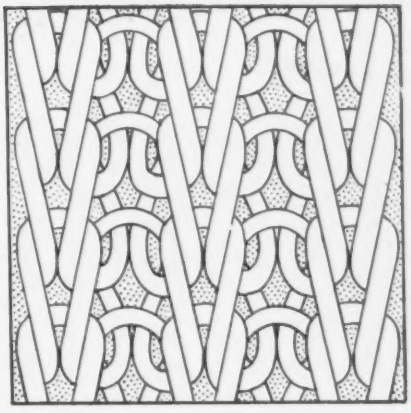


***Fig. 2. Magnified view** shows 1x1 rib fabric with rubber yarn knitted in.*

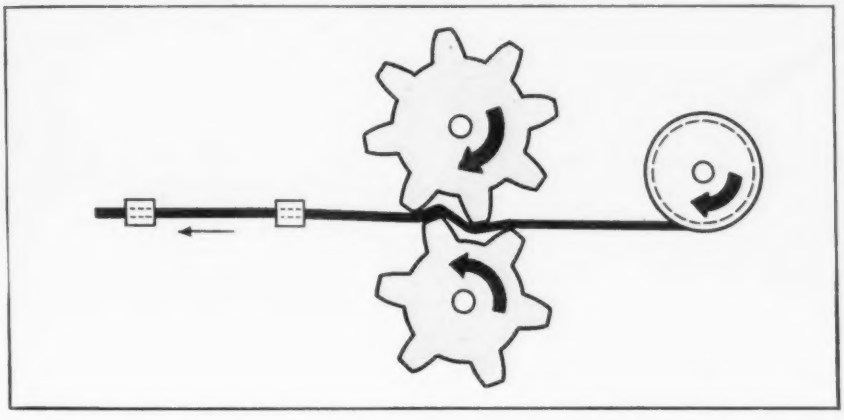


***Fig. 4. Fiber-gear feed wheels** control measured feed of rubber yarn to the knitting needles.*

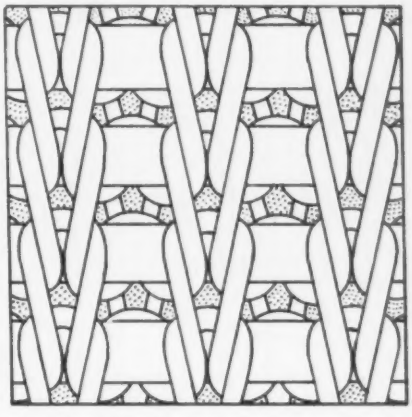


***Fig. 3. Magnified view** shows 1x1 rib fabric wtih inlaid elastic.*

Proper Feeding of Rubber Betters
ELASTIC KNIT GOODS

***HIGHLIGHTS:** Rubber strand, whether covered or bare, cannot be subjected to tension without contracting the fabric—For even work, equal lengths of rubber must be supplied — Fiber-gear feed wheels aid to this end—Elastic may be knitted in, laid in, or inserted by a combination of both.*

By HARRY WIGNALL
Leicester College of Technology
Leicester, England

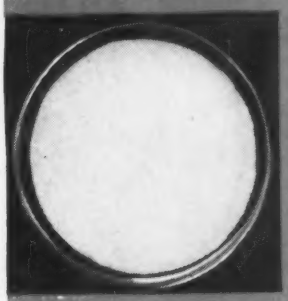
THE ELASTIC PROPERTY of the knitted structure is not sufficient in itself to cover all uses and so rubber is introduced in knitted fabrics to accelerate and control the recovery of the fabric after stretching. The feeding of the rubber thread to the knitting machine creates new problems, whether the rubber has been covered with cotton or is being used as a bare strand.

The graph shown in Fig. 1 gives some indication of the reason for the difficulty encountered in using rubber on knitting machines. The load in grams per denier is charted against the elongation under the varying load. It will be seen that the three main types of yarn which are suitable for knitting have a high yield-point which means that they will withstand the normal knitting tensions without any significant elongation. Rubber, however, yields immediately to the lightest tension. The graph shows that a load of 1 g. per den. results only in small elongation with the usual knitting yarns, while under similar load rubber will stretch to 30%. The graph shows the average results obtained on the Extensometer for a variety of yarns used in knitting and is presented only for purposes of comparison. Results will vary considerably particularly when there is variation in relative humidity.

RUBBER IN KNITTED STRUCTURES. Fig. 2 shows a 1x1 rib fabric where rubber is knitted in normally. The advantage of this fabric is that two-way stretch is obtained. The fabric may be extended either in the direction of its length or its width. This is suitable for surgical fabrics, foundation garments, and bathing suits. The use of rubber in this way creates considerable difficulty in yarn feeding to obtain a

(*Continued on page 204*)

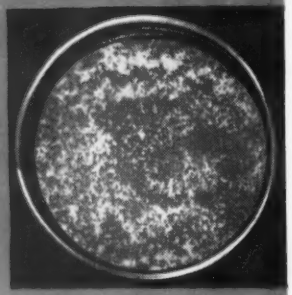
Add it up...



plus...

or

minus



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The use of Dowicides to make yarns mold resistant is of particular value where long time strength is necessary, as in the manufacture of rug and linoleum backing yarns and tire cord. The Dowicides prevent microbial attack from reducing the strength of the yarns both in the processing and in use. Moreover, their use is simple, economical and effective.

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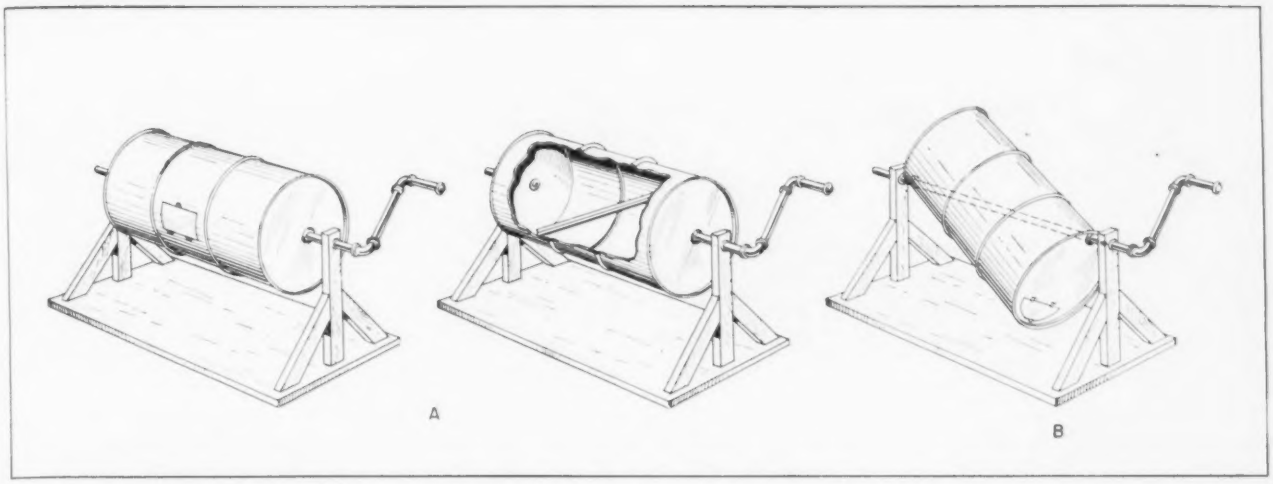
Additional information about any of these products is available on request.

DOW

CHEMICALS INDISPENSABLE
TO INDUSTRY AND AGRICULTURE

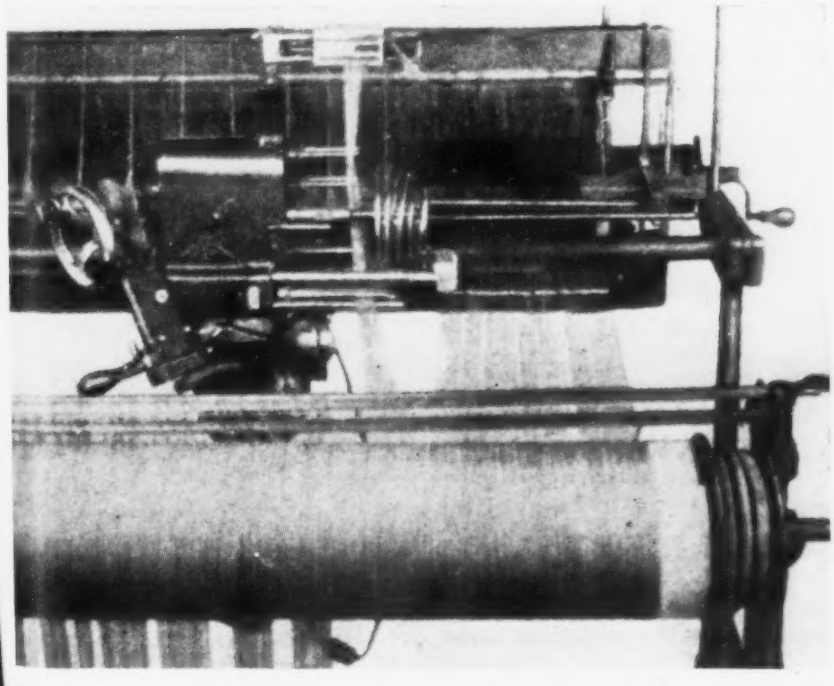


Two types of revolving drums are effective in cleaning loose drop-wires with sawdust. A shows the horizontal type with internal diagonal baffle. B shows drum in which offset axle serves as baffle.

DROP-WIRE Maintenance Aids Weaving Efficiency

HIGHLIGHTS: *Use of drop-wire carriers can reduce loom down-time on repeated weaves—Carriers work best if drops need no cleaning, but some cleaning can still be carried out—Pressure-gun and sawdust methods applied to clean loose drop-wires.*

By H. E. WENRICH



Twisting-in on machine can be done with drop-wires up near the heddles. Moving drops back several inches facilitates entering lost ends.

DROP-WIRE CARRIER DEVICES are cost-saving expedients. Principal objection to their use lies in lack of opportunity to clean the wires; also the carriers must be limited to use between the twisting-in department and the weave room. However, when changes are made in weave designs, such as number of shafts and yarn weights, the drop-wires must be removed from the run-out warp, and cleaning can then be readily accomplished. Moreover, it is often possible to do a satisfactory drop-wire cleaning job with the drops held by the carrier device during the time the thrum is tied on the emptied warp harness.

USING CARRIERS. Successful use of the carriers from the loom to the twisting-in and back to the loom requires care in placing the carrier on the harness, in cutting the woven-out warp from the loom, in cleaning the drops (if necessary) away from the loom, in setting-up at the twisting-in frame, in twisting through and storage or in mounting back into the loom with the full warp.

The value of the carriers arises, of course, from elimination of dropping the wires on a newly twisted-in warp. Proper use requires more attention and effort from warp boys and twisters-in to make the carriers "tick" in the elimination of the droppers on retwisted warps. This saves a few hours

(Continued on page 207)

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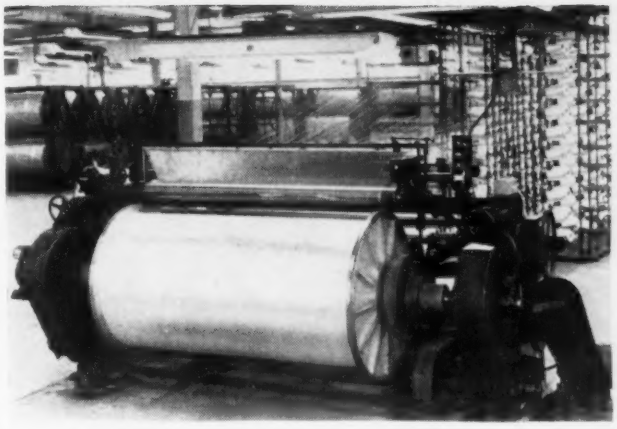
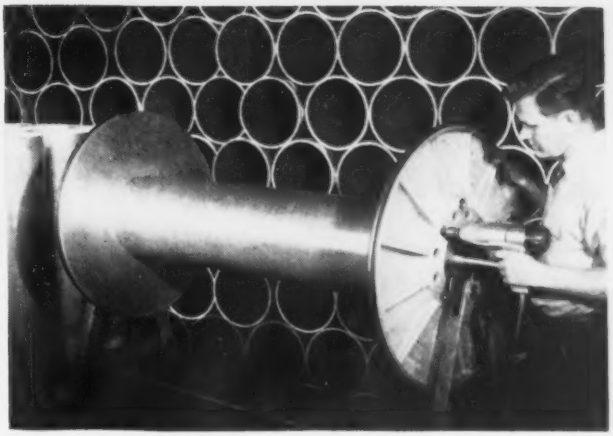


Aluminum section *or slasher beams, built of heat-treated tubing with heat-treated flange castings welded on or mechanically joined, have replaced wood and steel beams in many mills. Shown here are beams built by Milton Machine Works, Milton, Pa., (in warper) and Hubbard Spool Co., Chicago, (above) having a head diameter of 30 in., a barrel diameter of 12 in., and a distance between heads of 54¼ in.*

Warper photo courtesy Syntex Fabrics, Inc., Williamsport, Pa.



Preparatory and Finishing Equipment Use ALUMINUM

HIGHLIGHTS: *Many general-plant items also utilize light metal—Resin coating can protect dyeing equipment—Ductwork easy to erect—Aluminum reflects and saves heat.*

By H. V. MENKING

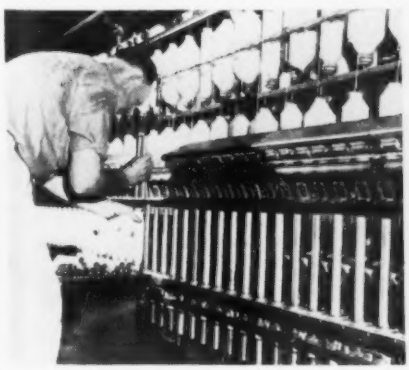
Industrial Machinery Div., Reynolds Metals Co.

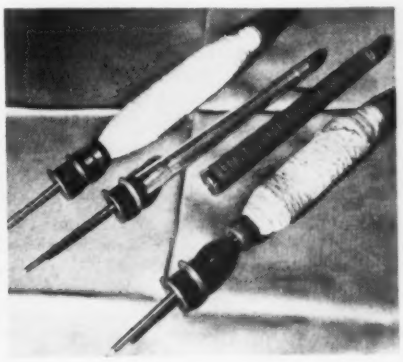
IN BOBBINS, spools, pirns, and similar accessory equipment, in which lightness, permanent dynamic balance, and resistance to chemical attack are essential requirements, aluminum is widely used. Barrels are made of 63S-T6 tubing or hollow extrusions, and sheet of 24S-T4 or R301-T6 alloy is employed for the entire spool.

Composite designs, with aluminum for flanges or barrels only, have also been developed to meet special requirements. Anodized aluminum-sheet circles have been used for steaming bobbins for many years. The trend toward larger spool sizes, which has accompanied the development of more efficient processing machinery, increases the importance of aluminum in this field.

Spindle blades made from free-machining aluminum rod have found wide acceptance because of their lightness and balance. Spindle sleeves or adaptors, formed from aluminum tubing or based on special extruded designs, permit greater leeway in processing packages of various sizes.

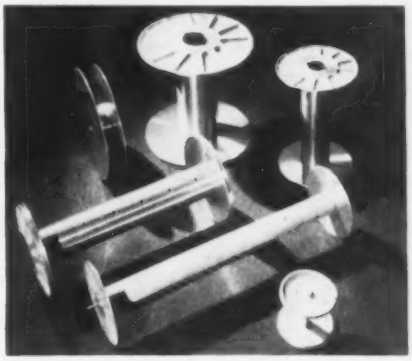
Aluminum quills and automatic-loom bobbins, either die-cast or formed from tubing, offer interesting possibilities because of their superior strength and durability. This is especially true when the yarn is dyed on the quill. Die-cast aluminum cop





Aluminum spindle adapters *and bobbins are taking the place of steel spindles and wooden bobbins in cotton spinning. Yarn capacity is increased by 25 to 50%, and spindles run smoother, reducing maintenance costs. Spindle speed can be increased. Shown here is an installation of aluminum adapters made by F. L. Regnery Corp., Chicago.*

Courtesy Joanna Cotton Mills, Goldville, S. C. and Textile Information Service, New York, N. Y.



Aluminum warp beams *shown here are tricot beams for warp knitting, selvage spool, warp beam for rubber yarns, center name beam for towel looms, and warp-compressor spool for woolen mills.*

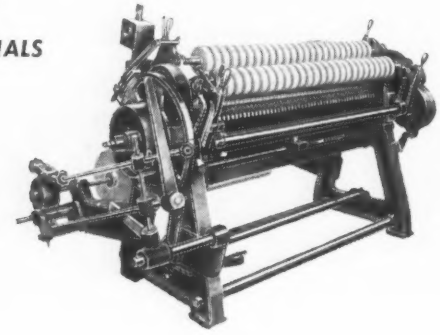
Courtesy Milton Machine Works, Milton, Pa.; West Point Foundry & Machine Co., West Point, Ga., and Wiltex, Inc., Cleveland, Ohio

Camachines

. . . for men with ideas

With more than twenty different models for the textile industries to choose from, Camachines offer a practical answer to every slitting and roll-winding problem. Illustrated below are four typical Camachines for men with ideas about increased production, improved quality and lower costs . . .

TACKY MATERIALS

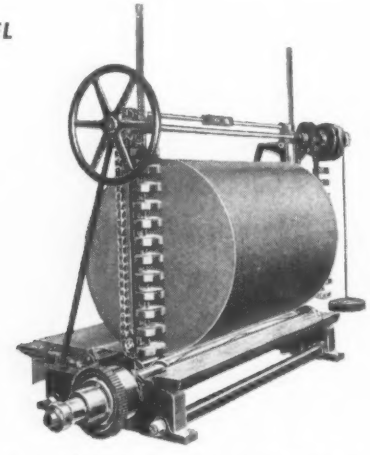


CAMACHINE 26-3A is especially designed for handling tacky or unevenly coated materials, such as adhesive tapes. Machine widths 26" to 56". Accommodates a 32" diameter mill roll. Rewinds rolls as narrow as ½", or up to 17¼" in diameter. Operates at speeds up to 400 fpm.

BIAS BINDING

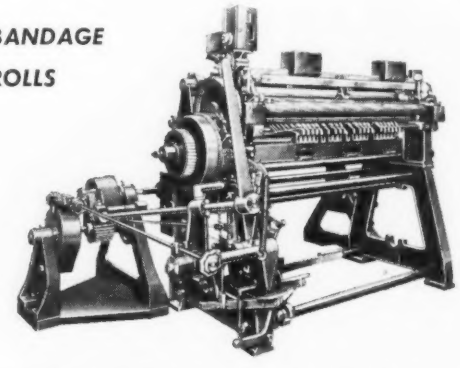
CAMACHINE 40-3L is the ideal machine for converting straight and bias binding fabrics (also specialty fabric) into strip in rolls. Machine widths 26" to 56". Accommodates material from roll, piece or fold. Rewinds rolls as narrow as ½", or up to 22" diameter. Speed up to 150 fpm from fold; higher from roll.

LOW MODEL WINDER



CAMACHINE 44-W low model winder operates in conjunction with processing machines as in bleacheries, fabric printing plants and bag factories. Available in machine widths from 32" to 82". Produces firm, uniformly rewound rolls up to 36" in diameter at speeds up to 1000 fpm.

BANDAGE ROLLS



CAMACHINE 40-4B, a semi-automatic machine for fast production of gauze bandage rolls. Machine widths 42" to 50". Accommodates 24" diameter mill roll. Rewinds rolls as narrow as ½", or up to 12" diameter. Machines come equipped with automatic stop for producing rolls of predetermined length.

Cameron Machine Company, 61 Poplar St., Brooklyn 2, N. Y.

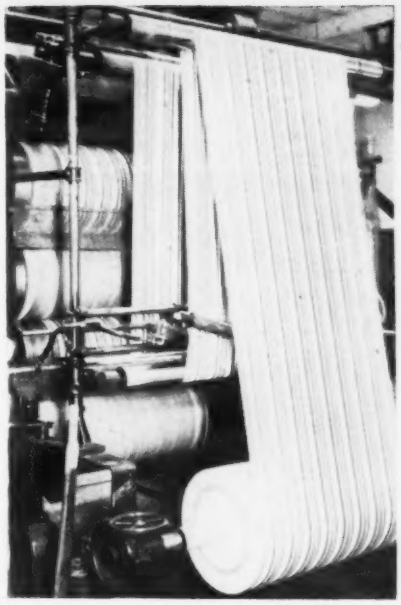
WRITE FOR LITERATURE

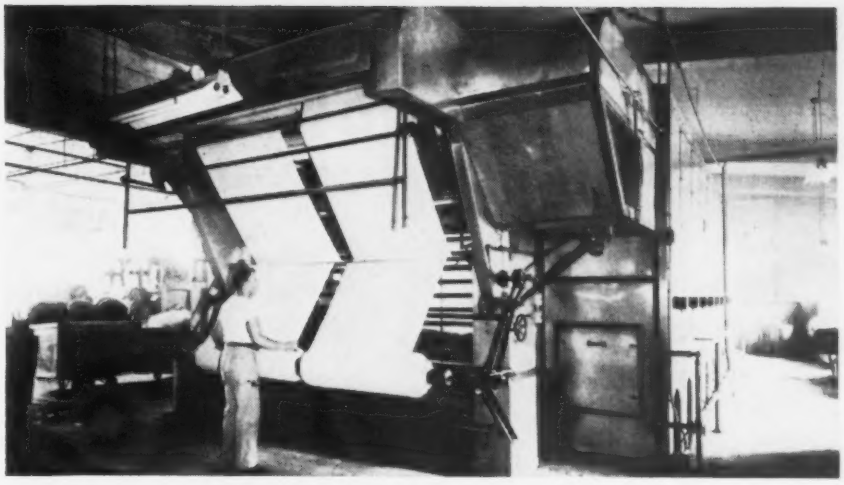
AA—188

Camachines

FOR FAST, TOP QUALITY ROLL PRODUCTION

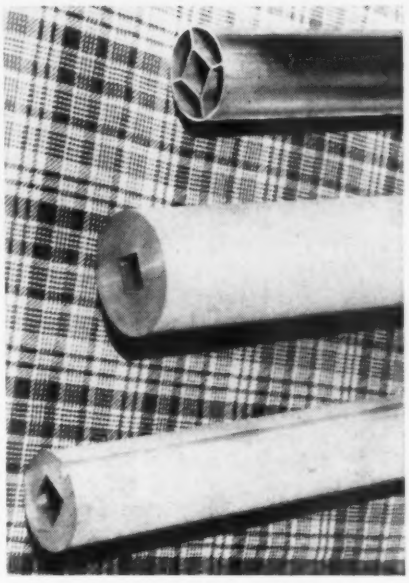
. . . the world over





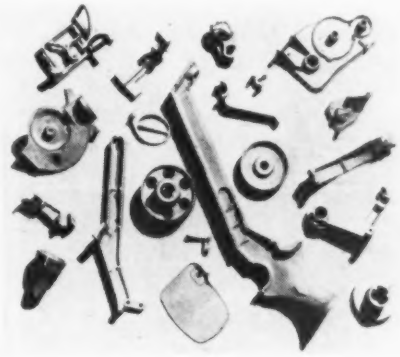
***Aluminum sheet,** extrusions, and structural shapes are preferred in the construction of drying equipment because of the non-rusting, non-staining, and heat-reflecting qualities of aluminum alloys. Shown here is the delivery end of a National loop dryer.*

Courtesy National Drying Machinery Co., Philadelphia, Pa.



***Aluminum stock shells** and cloth rolls such as these are preferred to old-style wooden rolls by many finishing plants. Three typical rolls, made by Hayes Industries, Jackson, Mich., and Wiltex, Inc., Cleveland, Ohio, are shown in lower picture.*

Courtesy Avondale Mills, Sylacauga, Ala.



***Aluminum die castings** used in textile machinery include parts for drawing, spinning, twisting, and winding equipment.*

Courtesy Doehler-Jarvis Corp., New York, N. Y.

butts are in standard use with coarse and plied yarns.

PREPARATORY EQUIPMENT. Aluminum has found extensive use in warp beams of many types and sizes, such as section or slasher beams, loom or yarn beams, and tricot warp spools.

The strength-weight ratios of aluminum alloys have permitted the design of very light, yet strong and sturdy, beams. Precision-machined, the beams run true and vibrationless at highest warping speeds, stop and start easily, save shipping costs. The high pressures developed by some of the new synthetic yarns, such as nylon or fine-denier acetate, are easily withstood with a minimum of elastic deflection of the flanges. Maintenance cost is low because aluminum beams have permanent dimensional stability.

Aluminum section or slasher beams are now used with barrel diameters of 10 and 12 in. and with head diameters of 28 and 30 in., standard distance between heads being 54¼ in., although greater lengths are also in use. Barrels are made of 63S-T6 or R361-T6 tubing, depending on strength requirements, and heads are usually cast of 355-T6 or 356-T6 alloy.

The aluminum head flanges are either welded to the aluminum barrel, using the inert-gas-shielded-arc method, or attached by mechanical means. Beams of composite wood-aluminum construction are used in special applications, with either heads or barrel made of aluminum.

Aluminum warp-compressor spools and jack spools have been designed for woolen mills; they feature sturdiness, lightness, balance, and freedom from splintering. Gear-track sections for warp-dresser reels in woolen mills have successfully been changed from cast iron to aluminum extrusions.

In skein or drum warpers, aluminum extrusions, castings, and sheet are extensively employed for the radial and horizontal members of the structure, replacing wood construction.

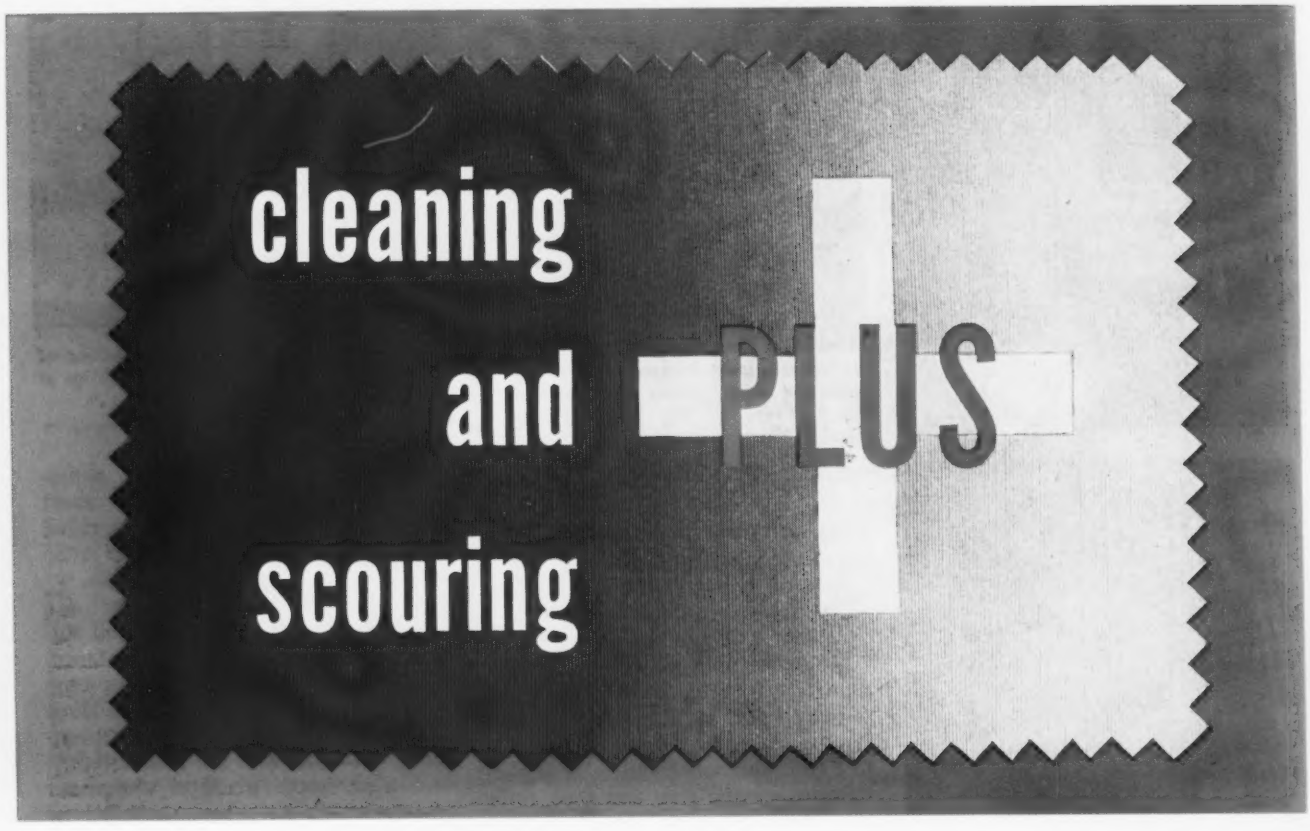
Tension washers in rayon creels are drawn from aluminum sheet and surface-treated to increase wear resistance. Cast-aluminum trident boards for some warping systems are preferred to steel-rimmed wooden bases because splintering and distortion are eliminated.

Slasher hoods made of aluminum sheet, which have been installed in many mills, are easier to erect than steel or copper hoods and eliminate spoilage caused by staining of yarn from condensed moisture. Aluminum tubing has replaced brass in certain types of slasher rolls.

FINISHING EQUIPMENT. The successful application of aluminum in bleaching and dyeing equipment depends on the type and concentration of the chemicals and the operating temperatures involved. Aluminum is satisfactory in the presence of hydrogen-peroxide solutions as used in bleaching silk and wool. Acid dyes and neutral dyes, as used in wool, silk, and rayon processing, can generally be handled in aluminum equipment. Under such conditions, aluminum is extensively used in form of sheet, tubing, and castings in parts of dyeing and soaking machines, and for perforated spools and tubes.

Vat, sulphur, and diazotized dyes, being either strongly alkaline or acidified with hydrochloric acid, cannot be handled in aluminum equipment. Chrome dyes and direct colors do not attack aluminum equipment, but some textiles treated with such dyes in aluminum vessels were found slightly "off shade." In borderline cases, inhibitors or protective coatings of the phenolic-

Improved SANTOMERSE No. 1



In all textile operations where fast, thorough cleaning and scouring are important factors, Santomerse No. 1 makes a highly important contribution as an economical, all-purpose detergent and wetting agent. Not only does it possess unusual cleaning and scouring properties—it has *plus* values in wetting out, dispersing, emulsifying and penetrating . . . This multiple action gives it wide use in many phases of cotton, linen, rayon, silk and nylon processing.

The initial action of Santomerse No. 1 is to reduce the surface tension of the water. This permits the solution to quickly perform its detersive or cleaning action, by forcing its way between soil particles and the surface to which they are attached. Particles thus removed from the surface are held in suspension. They cannot be re-deposited and are therefore effectively rinsed off and washed away.

For suggested uses and other details, send for a copy of Application Data Bulletin No. P-118. Write, or simply return the coupon. MONSANTO CHEMICAL COMPANY, 1700 South Second Street, St. Louis 4, Missouri.

DISTRICT SALES OFFICES: New York, Philadelphia, Chicago, Boston, Detroit, Cleveland, Cincinnati, Charlotte, Birmingham, Los Angeles, San Francisco, Seattle, Portland. In Canada: Monsanto (Canada) Ltd., Montreal.

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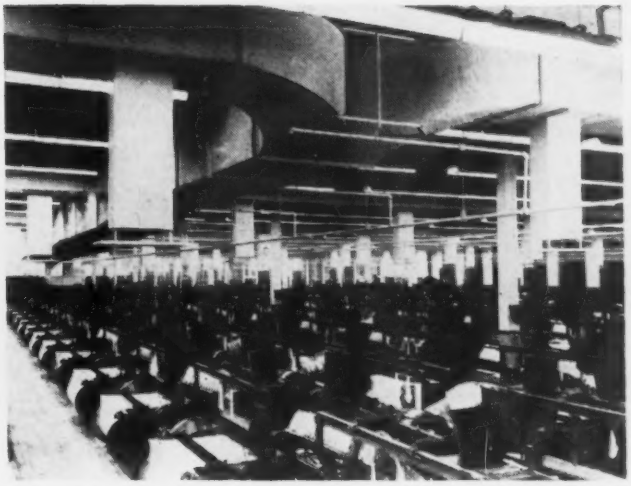
SERVING INDUSTRY . . . WHICH SERVES MANKIND

MONSANTO CHEMICALS

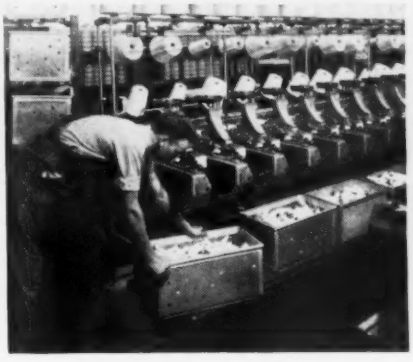
In vacuum-stripping pipe installations in cotton mills, 8-in. diameter aluminum tubing has proved highly satisfactory. Friction remains low, and a high degree of efficiency is maintained in carrying foreign matter and lint from the cards to the waste house.

Courtesy P. H. Hanes Knitting Co., Winston-Salem, N. C.



***Aluminum duct work** is widely used in textile mills. This picture shows the duct work distribution in a southern mill at the end of one of four major air zones.*

Courtesy Buensod-Stacey, Inc., New York, N. Y.



***Portable bins,** doffing and roving trucks, carts, and similar materials-handling equipment made of aluminum are clean and easily handled.*

Courtesy J. C. Paddock Co., Spartanburg, S. C.

***For spinning, winding, and twisting machinery,** aluminum is used in separator blades, both die cast in one piece and made of sheet with die-cast brackets, (Meadows Mfg. Co.); in headless-package bobbins (Evans Specialties Co.); in spindle adapters and bobbins (F. L. Regnery Corp., and H & B American Machine Co.); in die-casting take-up rolls, spools, sand-cast and die-cast tension pulleys (Meadows Mfg. Co.); and in die-cast ring holders and roll stands. The die castings illustrated were made by Doehler-Jarvis Corp.*

***Spools, bobbins, and pirns,** made partly or entirely of aluminum, are standard equipment in many branches of the textile industry.*

Courtesy Allentown Bobbin Works, Cloverleaf-Freeland Corp., Greenville Textile Supply Co., Hubbard Spool Co., Lestershire Spool & Mfg. Co.

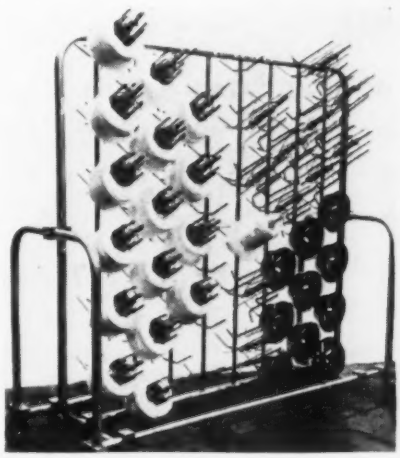
resin type may make aluminum equipment practical where the bare metal would not be satisfactory.

In the construction of kiers and extractors, aluminum sheet and castings are advantageous because of their lightness and because the extracted liquors are not contaminated. Phenolic-resin-coated dye sticks made of aluminum tubing have found extensive application.

In drying and finishing equipment, aluminum is successfully used in form of sheet, extrusions, and castings in drying and yarn-conditioning ovens, as drying poles and rods, for yarn-drying trays, racks, and frames, washing machine parts, skein supports, dry cans and tenter-frame parts. Freedom from rust and corrosion, ease of fabrication, lightness, and non-contaminating qualities are the principal advantages.

Aluminum stock shells, generally of 3- to 5-in. diameter, are preferred to wooden shells because they are

(Continued on page 214)

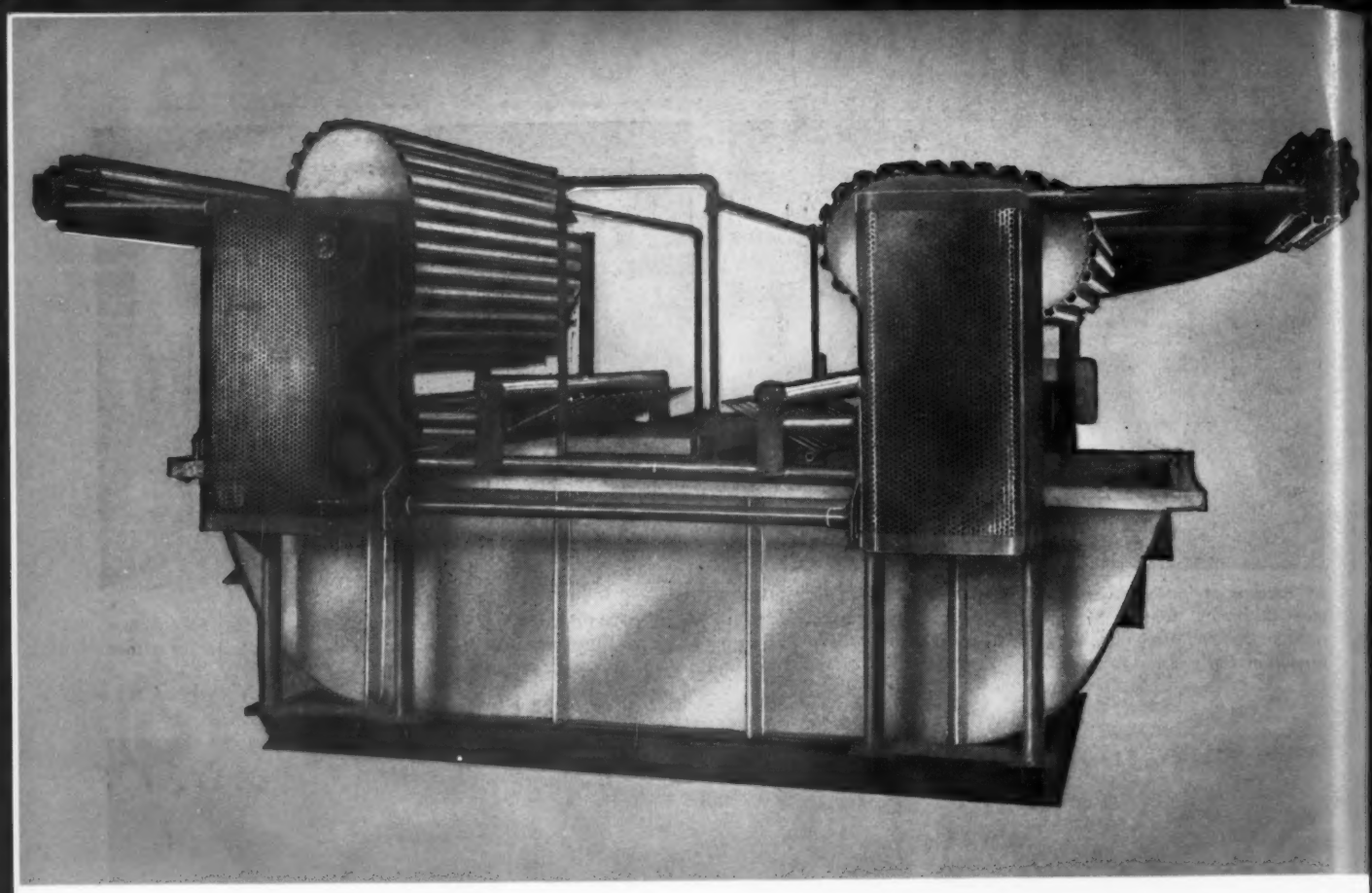


***Cake truck** built of aluminum tubing, rod, and bar offers lightness, durability, as well as non-rusting and non-staining qualities.*

Courtesy Brueggar Winding Co., Philadelphia, Pa.

***Cast-aluminum cheese** or trident-board bases are being tested as replacement for steel-rimmed wooden bases.*

Courtesy Avondale Mills, Sylacauga, Ala.



MAKING HISTORY

Our records show that 90% of those who have bought the new Continuous "Duplex" Dyeing Machine have reordered—some several times. The total in use is now over one hundred—a record acceptance in so short a time.

There are distinct reasons why successful companies have accepted this machine so quickly. The most important today is the greatly improved quality of the fabric after dyeing.

Users, also, report definite economies. Superior control features permit larger runs of yardage with the use of less dye liquor. In addition, continuous dyeing permits substantial time saving. One "Duplex" replaces two single line dye becks, plus.

The "Duplex" is being used successfully on a wide range of fabrics from lingerie sheers to suitings. It has an adaptability unmatched. Because of its low tension, it is now possible to dye continuously, fabrics which up to now have been handled only on single line machines.*

Why not contact us for full data?

**This machine has a number of patentable inventions and all steps necessary to secure patent protection have been taken.*

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World's largest manufacturer of machines for processing modern fabrics.

Talking over the Southern Industrial Relations Conference program area (left) W. D. Knox, asst. superintendent, Ninety-Six Cotton Mills, and Brumley D. Pritchett, superintendent of Eagle & Phenix Mills, Columbus, Ga.

Comparing notes between sessions are (left) George H. Sumerau, personnel director, Graniteville Co., Graniteville, S. C., and Grady S. Brooks, personnel manager of Pacific Mills, Lyman, S. C.

Pointing out suggestion-system operation is B. P. Robinson, industrial relations manager of U. S. Rubber Co., Hogansville, Ga., left, to Ivy L. Murray, director of training of West Point Mfg. Co., West Point, Ga.

SOUND RELATIONS Stressed For Public, Employee, Community

HIGHLIGHTS: *Textile men biggest group at Southern Industrial Relations Conference—Need and methods of public relations discussed—Opinion surveys show up misinformation of public, employee, and supervisor.*

By E. DALTON WHITE

SOUND AND PROGRESSIVE industrial-, employee-, and public-relations programs were seen as a prerequisite to meeting future economic changes by industrialists at the recent Southern Industrial Relations Conference. Success of any plans in this direction calls for active participation by executives to give proper support to such programs, it was also concluded.

Speakers at the 29th annual session of the conference, held at Blue Ridge, N. C., brought out the need of better industrial relations and the methods which might be used in building them.

Approximately 700 representatives from 183 companies in 83 industries attended the 4-day conference. The textile industry had the largest representation; some companies sent as many as 50 representatives.

It was generally agreed that the success of any program depended upon the degree of effective communication to employees and the people of the community.

Thomas Newton, director of training, Armstrong Cork Co., pointed out that many times supervisory personnel are embarrassed when employees, through the grapevine, learn of management decisions and plans before supervisors. If supervisors do not learn of decisions first, through management-communication channels, they will not be in a position to answer questions or explain management's viewpoint. Supervisory personnel should be in a position to prevent rumors and misunderstanding.

Discussing company publications, K. C. Pratt, president of K. C. Pratt Co., brought out that they should not be expected to serve as a substitute for good management, nor to make up for the shortcomings of poor management. He said company publications offer a direct and "family" way of discussing company problems and activities. Such a publication should be an educational media for discussions of the national economy; of any misinformation about company operations; and of how employee efforts, joined with those of others, make up the total sum of company operations. It should serve as a media of understanding between management and the employees.

J. C. Yow, employee-relations manager, Plantation Pipeline Co., suggested that forums of employees offer an excellent method of communications. The forums, when well directed, offer an opportunity for employees to "get gripes off their chests"; for companies to correct any misunderstanding, rumors, and the like. Forums also offer management an opportunity to talk to the "family circle" and explain problems and difficulties.

The need for building better industrial relations through better communications was discussed by W. Howard Chase, director of public relations, General Foods Corp. The human factor in industry needs revitalization to give employees a sense of personal dignity, feeling of belonging to the company team, and of being "in the know" of what the company is doing, he declared.

Pointing out how industrial management has failed to keep its employees and the public well informed concerning its policies and activities, Mr. Chase gave the results of public polls which showed that the public is not convinced that:

1. Top management tries to improve working conditions without waiting for pressure from labor unions.

2. Business leaders would be able to stop depressions without government intervention.

3. The public is better off under private capitalism than it would be under government ownership of at least some industries.

Mr. Chase said that industrial engineers estimate that individual productivity can be increased up to 50% by cooperative worker attitudes.

(Continued on page 194)

Another Example

How Alemite Methods Cut Production Costs

Ends Costly Bearing Failures

Your Lubrication Methods May Be More Antiquated Than You Suspect

A simple thing like transferring grease with a paddle may be boosting your maintenance costs—and that means lower productive capacity per dollar per machine. The Alemite Representative is a *specialist* in simplified, modern methods of handling and applying lubricants. A five minute conference with him may open your eyes to new cost-cutting ideas. Call your Alemite jobber or write to Alemite, 1888 Diversey Parkway, Chicago 14, Illinois.

Adds Productive Time to Machines by Fast, Clean Mechanized Handling and Application of Lubricants

Without human hands, dirt and moisture touching the grease, it's transferred in seconds direct from refinery sealed drums to the lubricating equipment. The result is mechanized barrel-to-bearing lubrication that ends all fear of costly bearing failures commonly caused by dirty grease.

This is just one of the many Alemite methods that help to cut production costs. Dirty grease can chew up bearings . . . inadequate lubrication will burn them out. Eliminate these *two* dangers with this Alemite Method and save grease, manhours, and machine time.

The Alemite Representative can show you case after case where actual practice or a time study analysis have proved that Alemite Methods eliminate wasteful and time-consuming handling of oils and greases . . . reduce shutdowns for repairs . . . time-outs for lubrication, add more productive time to machines. He can show you how to lubricate as many as 300 bearings from *one* central point without stopping the machines! Get the facts!

ALEMITE

Another Product of STEWART WARNER

MODERN LUBRICATION METHODS THAT CUT PRODUCTION COSTS

TEXTILE Equipment NEWS

Sinker-Top Machine Has Great Versatility

A new 24-in., 24-feed, sinker-top machine with three-position design wheels and four-color yarn changers, style STDY, has recently been developed by H. Brinton Co., Kensington Ave. and M St., Philadelphia 24, Pa. The new machine produces plaids, jacquards, variable-stripes, and patterned effects in almost unlimited color combinations and design variations. Either cotton, cotton and rayon, nylon, silk, woolen, worsted, or elastic yarns can be knitted. A special feature of this machine is the inclusion of tuck bars on all feeds to change automatically from fancy-wheel work to plain jersey or vice-versa, changing yarns at the same time, if necessary.

The three-position wheel, patented by H. Brinton Co. in 1935 (Patent No. 2,000,837) permits the elimination of floats on the inside of the fabric, the floating yarn being laid in generally on alternate needles. This allows the making of figure patterns without float stitches.

The three-position wheel is made of alloy steel, comprises two members containing from 72 to 160 jacks. Easily loosened screws permit quick rearranging of design-change jacks. There is one pattern wheel for each feed. Wheel diameters range from 2⅝ to 3½ in. As many of these wheels as necessary can be used to achieve a desired pattern. Wheels can be instantly installed or removed from machine.

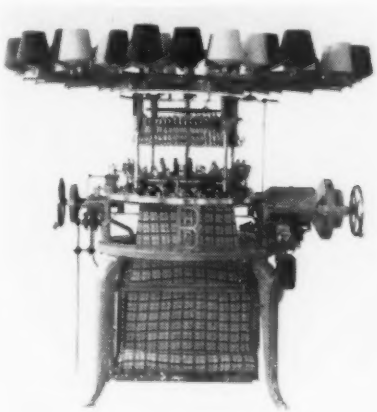
Each of the four fingers on the striping box carries yarn into and away from the needles. Precision-built levers actuated by high-tension piano-wire springs are said to assure positive trouble-free action.

The cam sections contain a stitch cam, split cam, and tuck-cam lever, as well as the pattern wheel when it is being used. The cam mechanism, in conjunction with the striping chain, counts the number of courses of a single color and institutes a color change when desired. The split cam carries needles from tuck to welt position. In connection with the three-position-wheel, this operation ties in the floats left by the upper wheel when making large patterns. The chain-and-sprocket wheel mechanism for operating the striping fingers provides four different heights of chain links. One sprocket wheel carries the measuring chain, one the striper control.

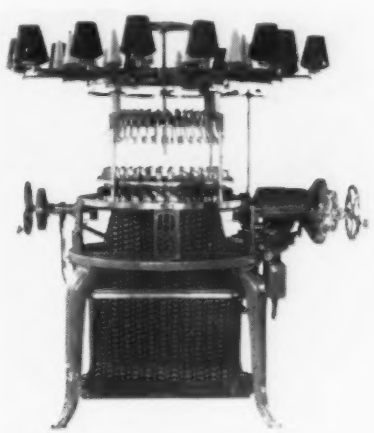
When the tuck bar is in operation, it raises the needles to a full knit position. This permits the production of plain instead of pattern designs.

Two types of three-position-wheel machines are available, both 24-in. diameter, with stationary cylinder, and concealed camming. One, as described, has 24 feeds. The other machine has 32 feeds and is generally recommended for continuous floatless pattern-wheel work. This can also be equipped with four-color striping boxes on as many as 16 feeds to make horizontal stripes, operated automatically, in conjunction with pattern wheels.

Both models have individual-motor drive, free wheeling, improved take-up and reel, and a substantial bobbin table for large cones.

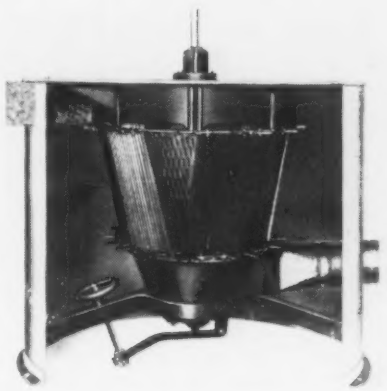


***Plain jersey cloth** in stripes of any width, all types of designs without floats; and plaids and checks are possible on the STDY machine.*



***Designs without floats** are produced on style STD which is similar to the STDY but does not have four-color yarn changers or alternate feeds.*

Vertical Opener Has Cylindrical Housing



***Better control** of air currents is said to result from the cylindrical shape of the new opener housing.*

A new vertical opener, Model S, featuring an improved housing and drive, is being offered by Saco-Lowell Shops, 60 Batterymarch St., Boston 10, Mass.

The new housing is of heavy sheet steel, rolled and welded into a fireproof structure 5 ft. in diameter and 5 ft. high. The cylindrical shape eliminates the dead-air spaces found in the rectangular cast-iron housing, reducing eddy currents. At the bottom edge of the rolled cylinder is a reinforcing flange which acts as a floor support and a reinforcement against distortion.

Two sets of doors are provided, two large ones built into the side of the housing located at any two of four possible places which may be most convenient, and four cleanout doors on floor level through which waste and droppings can be easily raked. This construction makes it possible to clean out the waste compartment without interfering to any great extent with the operation of the opening line. Two sprinkler domes are built into the top.

A tripod is welded in place at the bottom of the housing to carry the lower beater bearing and the bottom retainers for the grid-bar assembly. The carrier for the bottom bearing rests in a movable collar or housing which can be raised or lowered by

means of the lever and hand-wheel provided for this purpose. This hand-wheel is located inside the housing instead of on the outside, as it was formerly, since in this new position it is accessible when adjustments are necessary, but out of the way in a place where unauthorized changes cannot be made unnoticed.

The beater is assembled on an oversized steel shaft, the lower end of which is securely fitted to two precision-type ball bearings, one designed to take the thrust, and the other designed to take the radial loading. This dual bearing is enclosed in a housing which is sealed against the infiltration of lint or dust, is grease lubricated, and readily accessible. The upper bearing is designed to take the radial stresses resulting from the movement of the beater and its weight. Provisions have been made to permit upward or downward movement resulting from adjustments to the shaft by means of the hand wheel. The bearing assembly is said to have been thoroughly tested over a long period of time and found completely adequate in every respect.

The pick assembly consists of six smooth steel plates varying in diameter from 18 in. at the lowest stage to 33 in. at the top. These plates, designed to carry the picks and to act as an elevator for the cotton, are spaced 6 in. apart by means of cast-iron separators. These separators and plates are permanently locked into an integral assembly. The hardened-steel picks are fastened to the edge of the disks. The sharp edge of these picks can be renewed, if necessary, without disturbing the plate assembly. The first disk has three picks; the second, four; the third, six; the fourth, eight; the fifth, ten; and the sixth, three; a total of 34 active cleaning units. On the second, third, fourth, and fifth disks, certain picks are bent upward approximately 30° so that they will lift the cotton to the next higher stage, thus keeping the stock in a regular and even flow and avoiding chokes.

The beater, after assembly, is balanced statically and dynamically to assure motion at the regular operating speeds without any danger of vibration or other harmful conditions.

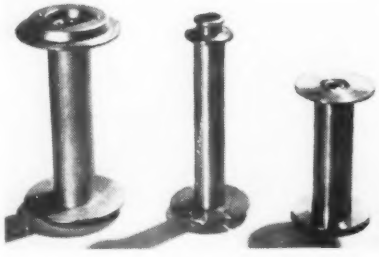
The 120 bars are made of a triangular bar of steel machined to precise contours and dimensions. They are arranged in four groups of 30 each with equal spaces between them throughout their entire length, so that 15 bars run off the elements of the cone in the direction of cylinder rotation, and 15 in the opposite direction. A triangular spacer of perforated cast iron is placed between the sections to act as a make-up piece and filler which can be easily removed to afford access to the cylinder without disturbing the setting of the bars. Each group of 15 bars can be adjusted to a different setting by means of a series of notched retainers at top and bottom which moves under control in a slide when setting.

The new opener is driven from a motor on the outer side of the top of the machine on a vertical motor base. The beater shaft is driven directly from the pulley on the motor by a straight, flat belt. The motor base is adjustable for proper belt tension.

Coating Material Is Corrosion Resistant

A new type of corrosion-resisting coating, Carbo-Kote, for wood tanks, floors, racks, tables, fume hoods, and other equipment subjected to corrosion has been developed by Carboline Co., 502 W. Taylor St., St. Louis 8, Mo. The thermosetting resin coating is applicable to wood, rubber, carbon, and to glass fabrics. It is said to form a coating or lining impervious to penetration by moisture or corrosives up to 325° F. The coating is applied with an ordinary paint brush. One coat is up to 30 times the thickness of a coat of paint. Most acids, except nitric acid and sulphuric acid over 45% concentration, are said to be effectively resisted, as well as alkalis, solvents, and mixtures of wet corrosives. The film, after setting, will flex up to 15%, it is claimed. The coating sets by polymerization at room temperature. Neither evaporation nor oxidation are involved; and once formed, the coating is inert to further breakdown.

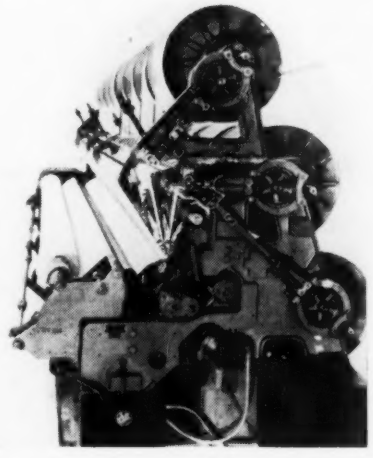
New Bobbin Line Is All-Aluminum



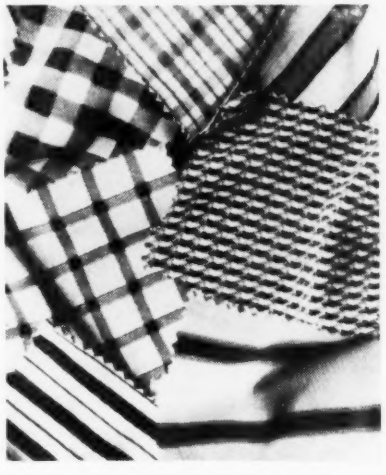
A new line of aluminum bobbins has been announced by Lestershire Spool & Mfg. Co., Johnson City, N. Y. Included are aluminum twisting and spinning bobbins, and jack spools for cotton, woolen, worsted, rubber, flax, jute, and plastic yarns.

Features of the new aluminum bobbins and spools are light weight and strength to resist the crushing action of yarns, and of rough handling. In addition, the aluminum will not corrode, splinter, swell, absorb moisture, or warp; and has non-magnetic properties.

Reiner Introduces 3-Bar Tricot Machine



Threading of rear guidebar is made easier by lifting up the two front guide bars by hand.



Design possibilities of the 3-bar tricot machine include plaids and checks.

To meet the demand for a 3-bar tricot-knitting machines, Robert Reiner, Inc., 550 Gregory Ave., Weehawken, N. J., has introduced a new machine which manufactures cloth of novel design in nearly unlimited variations in plaids, stripes, checks, inlays, etc. It runs at 320 courses per min. and can be stepped up to 360 courses when used as a 2-bar machine. Gages are 14, 24, 26, 28, 32. Chain-link or pattern-wheel drive is available. The machine takes spools up to 21-in. flange diameter, or those of any conventional size.

Fork Truck Handles 1,000-Lb. Loads

A new 1000-lb.-capacity electric fork truck, available in both telescopic and non-telescopic models has been announced by Lewis Shepard Products, 27th and Walnut Sts., Watertown, Mass. Engineered and built on the

— only in SONOCO

STRAIGHT SIDE WARP SPINNING BOBBIN

The spindle top fits the "cushion grip" with a gentle squeeze to make top-drive contact, which breaks sharp and easy without drag or pull in doffing.

A straight side bobbin and a straight side spindle acorn mean constant uniform clearance at this point, which is essential in maintaining top suspension drive.

All this and TOUGHNESS *too*

Added to these exclusive and outstanding features of the SONOCO Bobbin is our scientific treatment by impregnation for toughening the laminated fibre against rough handling between spooler and spinning frame.

No other warp spinning bobbin has been developed to incorporate all of the SONOCO Bobbin features which are proving their advantages in ever increasing use.

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. HARTSVILLE S. C MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

Elevators with low weight capacities can handle this medium-capacity fork truck.

same principle as the heavier capacity "Standrive" fork truck, the new truck is meant for the use where the greater capacity machines are not required, or where floor and elevator capacities prohibit the use of heavier equipment.

The new fork truck is designed to carry full 48-in.-long loads. Stability and safety of operation are insured through 34-in. width and proper weight distribution. The telescopic model has a collapsed height of 83 in., and gives 130-in. lifting height.

Pivot-point steering permits operation in confined areas, and makes for maximum maneuverability. Brakes are of the "dead-man" type, and are released by depressing brake pedal. Whenever the truck is unattended, the brakes are automatically applied.

Maintenance is reduced through the use of sealed ball bearings and self-lubricating bronze bushings at all vital points. There are only five lubrication points, all readily accessible; none are located on the underside of truck.

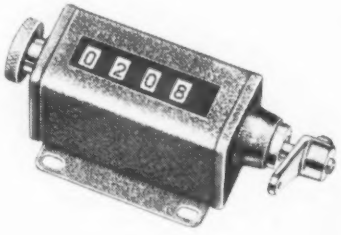
"Standrive" operation makes traveling in reverse as natural and as easy as in forward direction with all the safety and speed afforded by unobstructed vision. The through corridor allows operator to step off the truck from either side, to check or adjust load, change spread or lifting forks, remove obstacles in his path of travel, or to open and shut doors.

Stroke and Rotary Counters Feature Compactness

A new "Y" series of stroke and rotary counters has been added by Durant Mfg. Co., 1931 No. Buffum St., Milwaukee 1, Wis. to its line of Productimeter counting and measuring machines.

Both the stroke and rotary models are available in reset and non-reset styles, with 3, 4, 5, or 6 figures. The length of the case ranges between $1\frac{1}{8}$ and $2\frac{1}{4}$ in., depending on the number of figures; the width is 0.960 in., the height 1.238 in.

The figures on "Y" counters are black on white background, 0.166 in. high by 0.097 in. wide. They are clear, legible, and baked on the metal surface. Bearings are oilless automotive type. Stroke-style counters have a patented ratchet, non-slip-pawl drive mechanism; while the rotary style has a sleeve-clutch mechanism that assures positive drive and easy resetting. Shafts are of stainless steel; number wheels have steel running parts. The Plexiglas window gives clear visibility and is non-breakable. The operating lever on stroke units is bright-plated brass with positive grip. A single turn of the knob resets all figures to zero. The finish is black wrinkle enamel.



Compact size and minimum driving effort are features of the new series of counters.

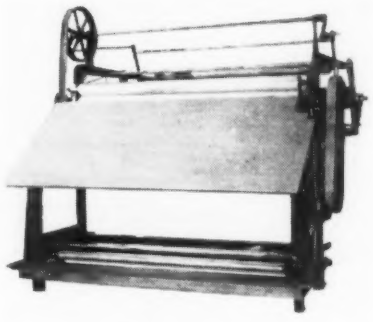
Precision Twist Tester Has Improved Features

An improved version of its precision twist tester has been announced by U. S. Testing Co., Inc., 1415 Park Ave., Hoboken, N. J. Advantages of the unit are said to be accuracy, speed, and ease of operation. The instrument is accurate for determining ply twist and single-yarn twist. In addition to accuracy and ease of operation, features such as a quick-set dial and tension device enable the operator to conduct the twist test with a minimum of preparation.

All parts are painted, japanned, or heavily chrome-plated. The unit is equipped with a 110-v. universal motor which is reversible for Z or S twist. Speed of the motor is controlled by a rheostat foot switch. The motor is a heavy-duty type designed for operation of jewelers' lathes.

The equipment was designed by textile technicians for continuous use and convenient operation. Yarn is fastened in specially designed clamps by means of thumb screws. The motor is reversed by a conveniently located toggle switch. The motor is started by a foot pedal which also controls the speed, leaving the operator's hands free for controlling the test.

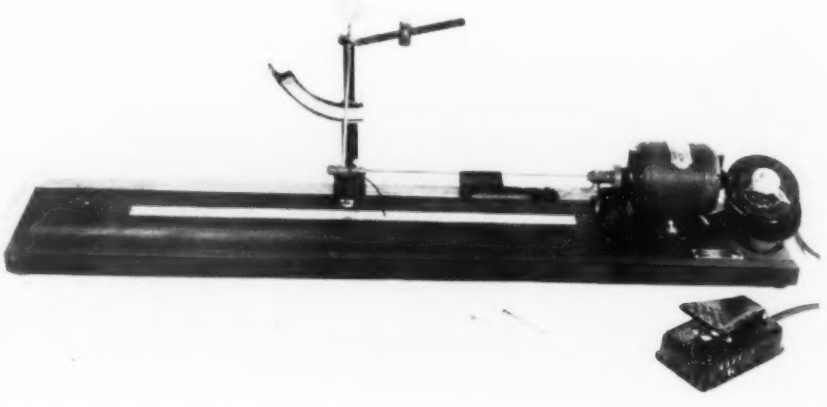
Inspection Table Features Control Devices



The versatile design of this new table permits its adaptation to mill's needs.

A new cloth-inspection table, said to be constructed to permit simple and quick adaptation to the needs of any mill, has been announced by Southern States Equipment Corp., Hampton, Ga. The table has a clutch mechanism, with foot-treadle release, which permits jogging or inching without excessive wear, yet drives forward

(Continued from page 222)



Turns per inch and take-up due to twist can be determined quickly by this improved twist tester.

FABRITEX* GUMOLITE*

Consistent Clearness of Gum

Freedom from Lime Salts

Uniform Viscosity

Constant Laboratory Control

SUPERIOR TEXTILE GUMS . . .

FABRITEX: an outstanding heavier printing gum for both screen and roller printing . . . achieves superior results on an unusually wide variety of textile fabrics.

GUMOLITE: for the most discriminating who desire truly striking white effects in discharge printing.

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CARLTON HILL, NEW JERSEY
MANUFACTURERS OF NEOZYME* • PAROLITE* • DISCOLITE* • DRYTEX*
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When you think of textile printing . . . remember FABRITEX . . . remember GUMOLITE . . . superior textile gums . . . product of Royce Chemical Company.

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4078

Kinks AND SHORT-CUTS

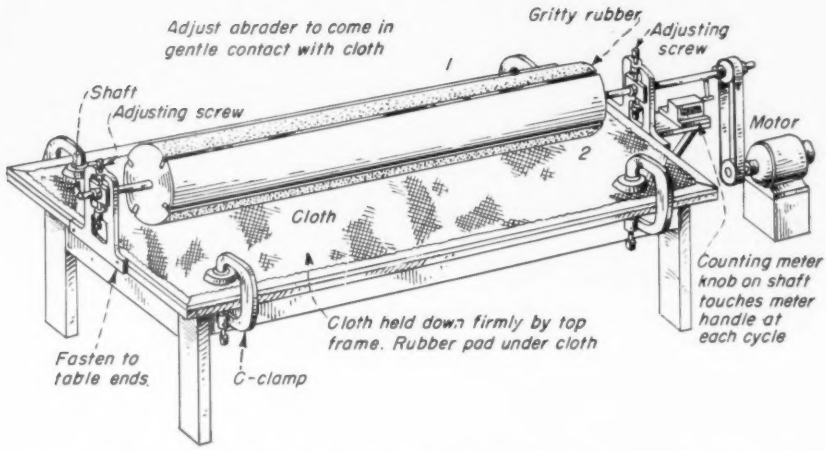
Cloth Abrasion Tester Made of Wooden Roll

✻PRIZE WINNER FOR OCTOBER
(July contest)

A simple cloth abrasion tester can be made as shown in the accompanying sketch. It consists of a table on which the cloth to be tested is placed and a revolving roll in which abrasive sheets are inserted.

An ordinary smooth-top table will serve for holding the cloth sample. A hard-rubber pad may be placed under the cloth to insure smoothness. Wooden holders, with the under side covered with abrasive or rubber to grip the cloth, should be placed around the edges of the cloth. C clamps may be used to clamp these holders to the table.

The wooden roll must be perfectly round and smooth. At equal distances on the perimeter of the roll, cut four slots the length of the roll. The wooden roll is thus divided into four sections. Make wooden strips to fit into these four slots. The strips should be of a size to fit tight in the slots when the edges of the abrasive sheet are placed in the slots. (Dovetailed slots and strips are preferable.)



***Cloth abrasion** for comparative purposes can be done with this homemade tester. Sheets of abrasive material are mounted on the roll, and cloth is held firmly in place on the table. Revolutions of the roll are recorded by the mechanical counter.*

Select a good abrasive material. A gritty surface on a rubber or cloth base is satisfactory. Cut two sheets of the material so that each fits a section of the wooden roll. Allow enough width of the sheet so that the edges will fit well into the slots on each side of the roll section.

Place one sheet on a roll section and clamp it tight by forcing the wooden strips into the two slots. Skip one section of the roll and mount another abrasive insert on the second section. This places inserts on two opposite sections of the roll.

The roll shaft is mounted in brackets at each end of the table. Adjusting screws in the bracket permit more or less pressure to be placed on the cloth by the abrasive sheets. The shaft is driven by a motor.

A metal extension on one side of the driveshaft is designed to strike the trigger of a counting meter attached to the bracket or to the table. In this way, the number of revolutions made by the roll is recorded. *(K-910) H. J. Haas, Martinsburg, W. Va.*

Rubber Shock Absorbers Aid Drawing-Roll Draft

Drawing rolls that run at high speed (400 rpm. and faster) often show a tendency to jump. The heavier the sliver delivered, the worse the jumping is. A 60-gr. sliver will cause the rolls to

A $25 SAVINGS BOND FOR YOUR KINK

✻ **You undoubtedly know of some kinks and short-cuts that are helpful to mill operation. Write them down and send them in. We pay promptly upon acceptance—*before* publication. In addition, we award *every month* a $25 Savings Bond for the accepted kink we consider most useful.**

Don't delay. Don't worry about dates. Send in your kink *now*. There is always a Savings Bond prize contest going on!

Don't take time to polish up your writing. We'll do that. Don't waste time to make a finished drawing, as our draftsmen will take over. Just write enough details and do enough drawing (if any drawing is necessary) to make clear to the editors how your idea works and what machine or process it is applicable to. Photos can be sent.

Look over the kinks in this and other issues. They will offer you some useful ideas, and they will also suggest other ideas you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments that are of merit—anything that will help production, improve quality, or cut costs.

Writing kinks is easy. It's fun. It's profitable. Give it a try. *Now*.

RULES OF CONTEST

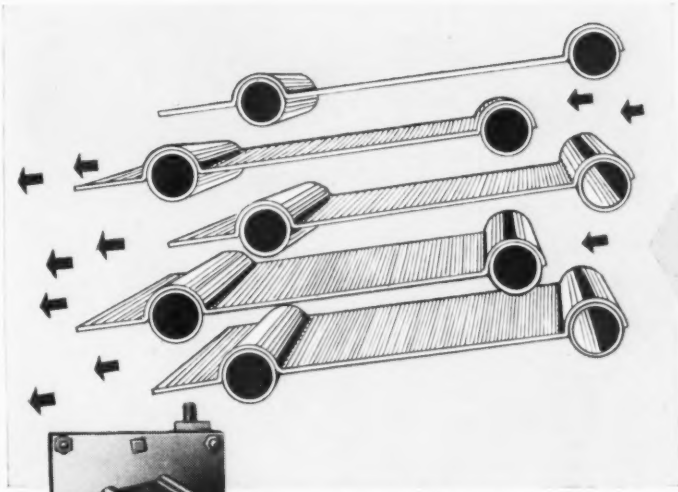
1. No limit to number of entries.
2. New contest every month. Each contest closes with kinks received last day of the month. Prize winner is published the third succeeding month.
3. All kinks will be paid for on acceptance. Illustrations, when submitted, do not need to be finished drawings (penciled sketches are satisfactory); but they should be clear and complete. Prize awarded to winner is sent to him after publication. Good photos are acceptable.
4. Previously published material is not eligible for prize or publication.
5. Unless you advise to the contrary, we assume that we may sign your name to your kink when published.
6. Judges of the contest are editors of TEXTILE WORLD. Their decision is final.
7. Send your entries to either address:

TECHNICAL EDITOR
TEXTILE WORLD
330 W. 42nd St.
N. Y. 18, N. Y.

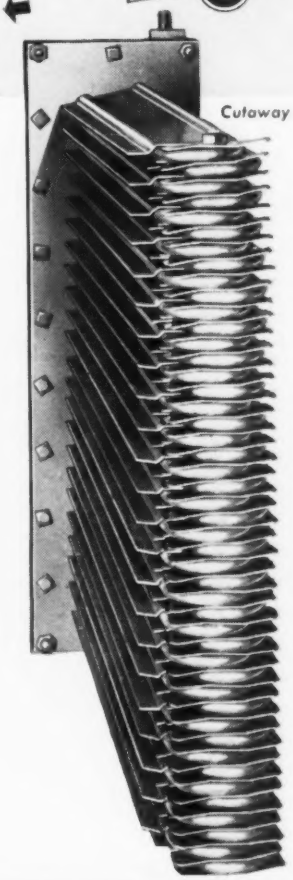
ASSOCIATE EDITOR
TEXTILE WORLD
P. O. Box 1641
Columbus, Ga.

NOW A SELF-CLEANING UNIT HEATER

TEXTILE THERMOLIER



Cutaway view of unobstructed air flow passages, (drawn to exact scale.)



Features of TEXTILE THERMOLIER in addition to *self* cleaning:

- Maximum capacity provided at all times and annoying and destructive water hammer eliminated because built-in pitch of the tubes and internal cooling leg assure continuous drainage of condensate.
- Safety and durability assured with leak-proof tube-to-header construction.
- Plain thermostatic trap, the simplest and least expensive kind of trap, made practical because of Thermolier's exclusive internal cooling leg.

**Write for the full story.*

EASIER HOUSEKEEPING! MORE EFFICIENT HEATING!

Free flow of air self-cleans the heating surfaces. Lint, fly and dirt sweep clean from horizontal trailing edge.

Incorporating all the features that have made the standard THERMOLIER a leader, the new TEXTILE THERMOLIER banishes the problem of clogging and loss of heating capacity, and cuts cleaning to almost nothing.

In actual weave room test, TEXTILE THERMOLIER proved its superiority:

- A conventional unit heater clogged solid in four days. Its heating capacity was lost as clogging increased. Finally it had to be shut down for a prolonged cleaning period.
- After three weeks of operation, TEXTILE THERMOLIER showed negligible accumlation. It was quickly cleaned with an air hose.

GRINNELL

GRINNELL COMPANY, INC.
Providence 1, R. I.

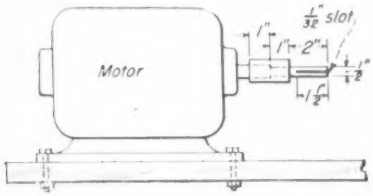
jump more than a 50-gr. sliver. And the heavier sliver will make a rougher-looking slubber roving.

The cause of the jumping of the drawing rolls is impact that takes place in the weighting assembly. The distribution of weight on the rolls is changed momentarily. Of course, any change in the amount of weight on the rolls (even though it lasts only an instant) changes the draft of the sliver. The rough-looking slubber roving is the result of uneven drafting.

Drawing draft can be made truer and more effective by reducing or eliminating the impact in the weighting assembly. This can be done by separating metal parts with a cushion that absorbs shock.

Rubber makes a good shock absorber. Get some discarded rubber packing from the engine room and cut in strips about 1 in. wide. Place a strip of this rubber between the weight hook and weight. Repeat for each weight on the frame. *(K-985) Wm. Shaw, Providence, R. I.*

Machine Parts Polished With Motor and Emery



***Knitting-machine parts** can be polished easily and quickly with this tool. Insert fine emery cloth in the slot at the end of the shaft, and hold the part to be polished against the emery.*

In the shop where knitting machines are fixed, a number of hardened-steel parts (cams, latch guards, yarn feeds, etc.) require frequent polishing. If this job is done by hand, it is slow and rather difficult. We use an electric motor for polishing these parts.

A ¼-hp. motor is mounted on a workbench, with the motor shaft on the right-hand side of the fixer. A 2-in. sleeve is made to fit over the end of the motor shaft and is fastened to the motor shaft with two Allen setscrews. The heads of the setscrews should be flushed with or lower than the surface of the sleeve. The other end of the sleeve must have an inside diameter of ½ in. It should be 1 in. long.

Get a 3-in. length of ½-in. steel rod. Cut a 1/32-in. slot lengthwise down the center of this rod to a length of 1½ in. Insert 1 in. of the solid end of the rod into the end of the sleeve extending from the motor shaft. Fasten the rod in the sleeve with two other Allen setscrews.

The rod, sleeve, motor shaft, and motor are shown assembled in the sketch.

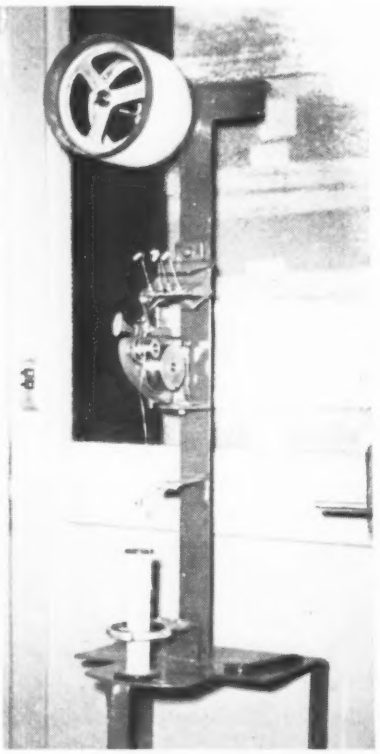
Insert a strip of emery cloth into the 1/32-in. slot in the steel rod. The smooth side of the emery cloth should be held toward the operator, and the motor should be wired so that it runs counterclockwise to throw the ground dust away from the operator. Wind the emery strip around the ½-in. steel rod.

To use the polisher, start the motor and hold the machine part to be polished against the emery cloth.

It is important to use only fine emery. A coarse emery will grind off too much of the face of the part. It is advisable also to move the part sideways along the emery to prevent scoring the face of the part.

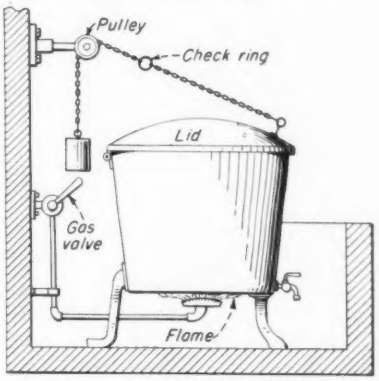
By using other flexible inserts instead of the fine emery, the tool can be used for many other grinding and polishing jobs. *(K-987) J. H. Blore, Hamilton Beach, Ontario.*

Threading and Piecing Up Taught on Isolated Head



***This Atwood twister head** is used to train learner operators in threading and piecing up. All the working parts of a head were mounted on a frame and placed in a quiet location. With only the threading and piecing up operations to concentrate on, a beginner quickly learns them.* **(K-980) Glass Fibers, Inc., Waterville, Ohio**

Chain and Weight Make Automatic Gas Cutoff



***A gas cutoff** that works automatically can be made as shown here. When steam forces the lid of the kettle up, the weight drops against the cutoff in the gas line. A check ring in the chain can be used to limit the reduction of the gas supply.*

A simple way to reduce or cut off heat when a liquid bath (as in dyeing samples) comes to a boil is shown in the accompanying sketch.

The kettle is equipped with a lid that swings on a hinge at the back side. A chain is attached to the front edge of the lid, led over a pulley above the hinged edge of the lid, and attached to a weight. The weight should be a little less than the weight required to lift the lid. When the liquid comes to a boil, steam forces the lid open and the weight falls.

The cutoff in the gas line should be located directly under the weight and arranged so that the gas is on when the handle is up.

If you wish only to reduce heat when the bath reaches a boil, insert a check ring in the chain in front of the pulley. The ring stops the fall of the weight when the ring comes against the pulley. Place the ring in the chain so that the weight travels the distance desired to reduce the supply of gas.

If you wish to cut off the gas entirely, leave off the check ring. The weight then travels the full distance downward and cuts off the gas. *(K-933) H. J. Haas, Martinsburg, W. Va.*

Single-Edge Razor Blade Cuts Pattern Yarn on Hose

Our half-hose knitting machines were equipped with mechanical yarn cutters for cutting away the pattern yarn on men's woolen socks. The yarn-cutter blade would not hold an edge; it had to be removed every few hours and sharpened.

We devised a cutter that works much more satisfactorily. An ordinary single-edge razor blade was inserted

AUTOMATIC FORK TRUCK

AUTOMATIC TRANSPORTER

Battery Electric Trucks and EXIDE-IRONCLAD BATTERIES

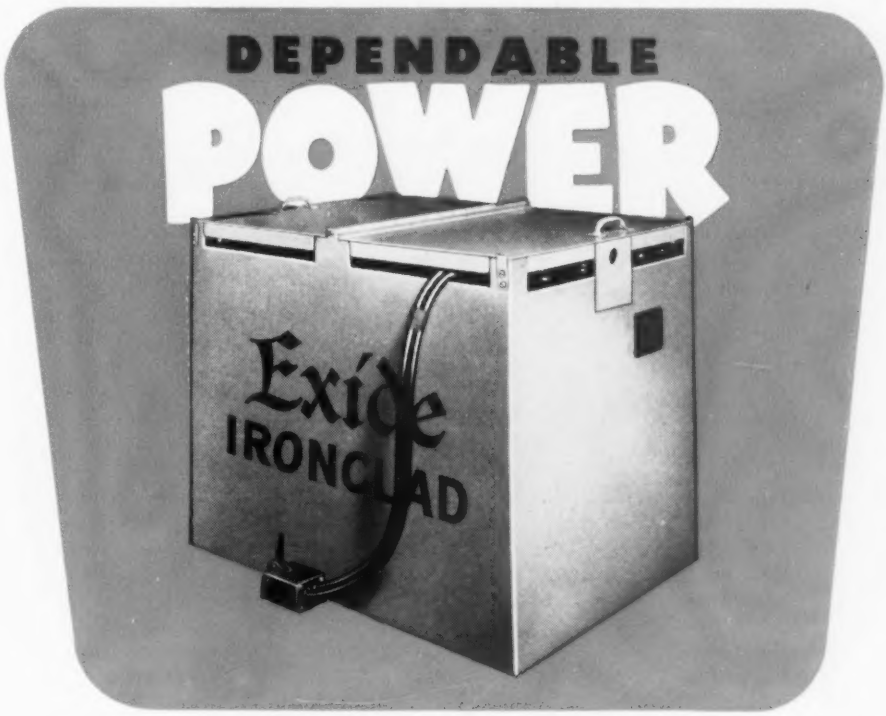
Help to lower production costs . . .

Mechanized materials handling, with battery electric trucks, is one solution to high production costs. By this modern, efficient method materials are moved in greater volume, and at a big saving of time, effort and handling costs.

America's top industries prefer battery electric trucks because, when *all* costs are added up, they show the *lowest cost per ton handled*. And you can count on maximum safety and dependability, with full shift availability, when the motive power is supplied by Exide-Ironclad Batteries.

Electric industrial truck users have frequently expressed a preference for Exide-Ironclad Batteries, the batteries that assure peak performance day after day. This preference is due to the fact that Exide-Ironclad Batteries have ALL FOUR of the vital characteristics of a storage battery—high power ability, high electrical efficiency, ruggedness and long life.

Write for further particulars and FREE copy of Exide-Ironclad Topics, which covers latest developments in materials handling and shows actual case histories.



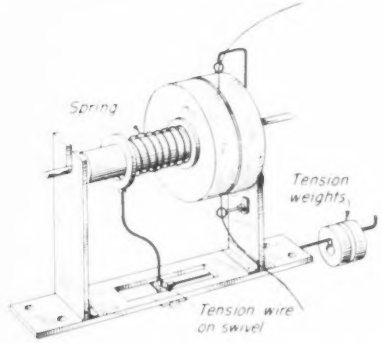
1888 . . . Dependable Batteries for 60 Years . . . 1948

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32 • *Exide Batteries of Canada, Limited, Toronto*

through a slot in the dial of the machine. It is located so that the feed yarn to be cut is pulled across it under tension. A blade lasts several months.

We also tried the blade on cotton yarns, but it did not work as satisfactorily as it does on woolen yarn. *(K-981)*

Yarn Waxing Disks Are Held Under Tension



***Waxing disks** for mercerized yarn can be held under spring tension by the use of this device. Tension is adjustable by means of the washer and stiff wire.*

For a long while we used bought wax disks for waxing mercerized yarn. The results we got were not very satisfactory, so we began molding our own disks and mounted them so that they would be under a slight tension. Our waxing was considerably improved.

The tension device we use consists only of a stand and wooden shaft to support the disks and a spring over the shaft for applying tension. The wooden shaft rests in open slots in the stand. It can be lifted out so that old disks can be removed and new ones put on.

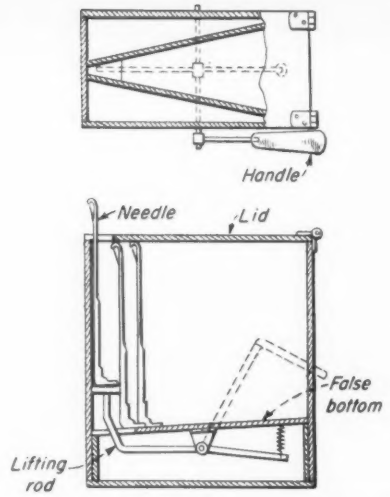
Spring tension is adjustable by means of the washer behind the spring and the heavy wire welded to the washer. *(K-939) H. J. Haas, Martinsburg, W. Va.*

Knitting-Needle Dispenser Raises One Needle at a Time

A knitting-needle dispenser that dispenses one needle at a time can be made as shown in the accompanying sketch.

Use a small box a little higher than the length of a needle. In the bottom of the box, place the needle-lifting mechanism. This mechanism can be made as follows:

Get a small-diameter steel rod and bend it in the shape shown in the sketch. Flatten the lifting end and shape it in a V so that it will fit under the butt of a knitting needle. Drill a small hole in the other end of the rod for fastening a spring to the rod.



***A knitting-needle dispenser** can be made as shown here. When the outside lever is pressed, the lifter rod inside the box raises one needle through a hole cut in the box lid.*

Weld a steel pin crossways at the lower bend of the lifting rod (at the fulcrum point which can be seen in the sketch). This pin should extend an inch or two to each side of the lifting rod.

Now make a false bottom for the needle box. It can be supported by small wooden legs glued to the box (as shown in the sketch). Cut a V-shaped hole in the false bottom for the lifting-rod.

Three anchors must be made to the lower side of the false bottom: one for the spring that works on the lower end of the lifter rod, and two more for the pin welded on the lifter rod. Loops of wire can be used for these anchors; or if a wooden false bottom is used, small eye screws can be used. The anchor for the pin should support two loops of wire around the pin, since the entire lifting mechanism is suspended from the false bottom.

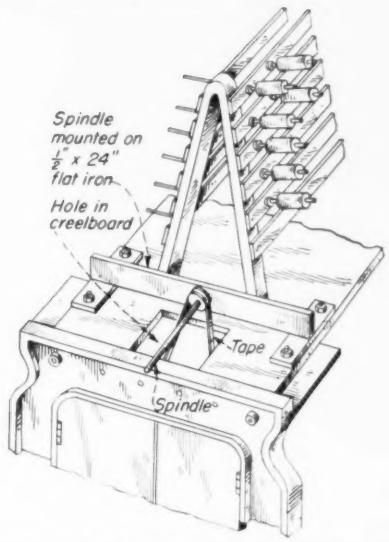
Fasten the lifter rod and spring to the false bottom, and place the assembly in the box. The end of the welded pin should extend out of the side of the box through a hole cut in the box.

A handle or lever should be fastened to the extended end of the rod. This lever, when pressed by the thumb, raises the lifter rod above the V-hole cut in the false bottom. When the lever is released, the spring on the lifter rod causes the rod to drop back below the false bottom.

Now cut two partitions for the needle box. Insert them into the box so that they form a V. The point of the V should be directly above the lifter rod. A corresponding V should be cut in the box lid.

To use the dispenser, fill the box (between the partitions) with needles, butt down. After the box is filled, keep the lid closed. When you need a needle, press the outside lever. The lifter rod raises one needle through the V slot in the box lid. *(K-934) H. J. Haas, Martinsburg, W. Va.*

Dummy Twister Spindle Cleans Up Bad Work



***Twister bad work** can be cleaned up without a spindle being taken out of production by the use of the spindle shown here. The spindle is mounted at the end of the twister and driven directly from the twister cylinder.*

There are many arrangements for running off twister singlings and doublings. In many cases, an end is broken back and the empty spindle used for straightening up the bad work.

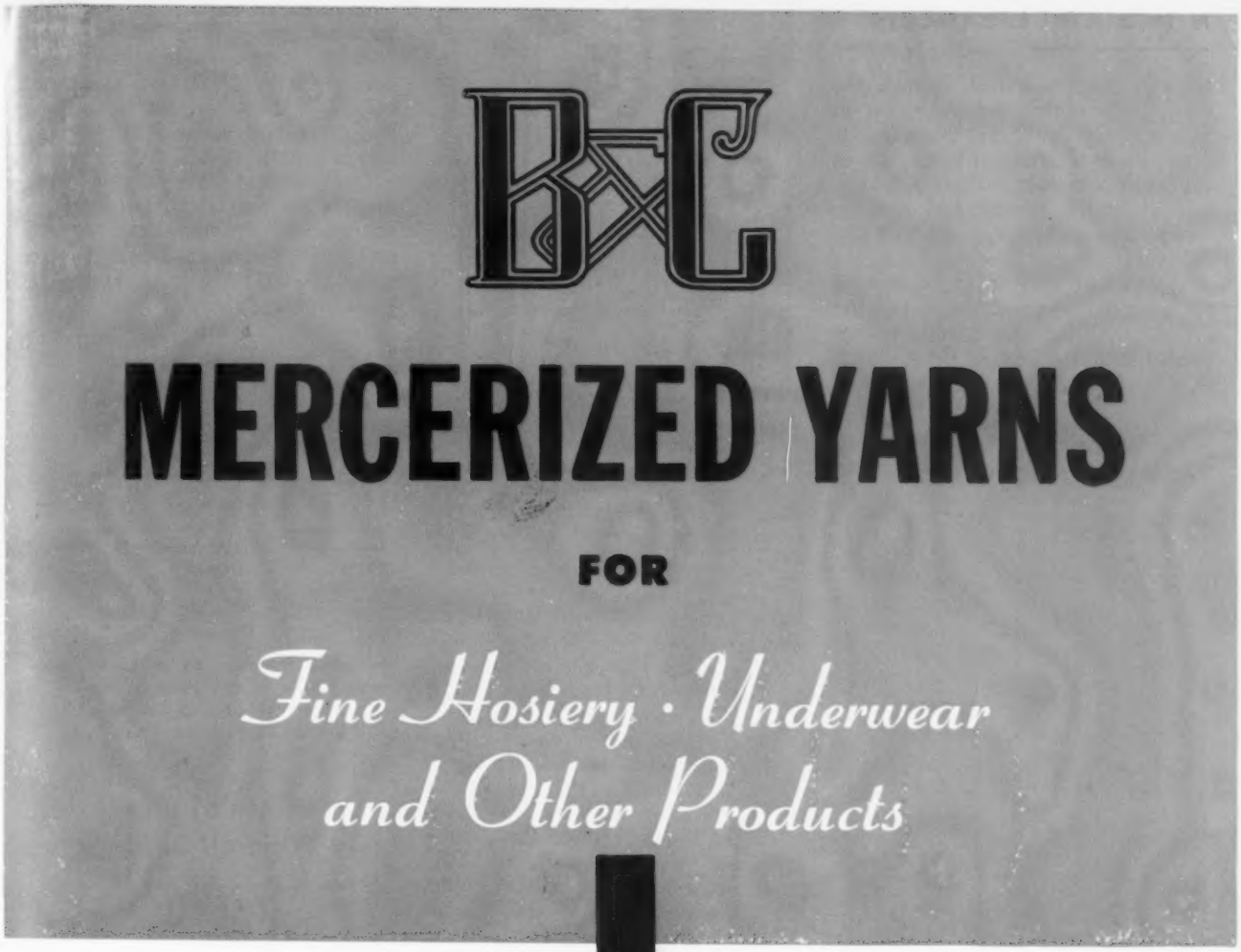
The spindle we use is an extra one mounted at the end of the twister. We can straighten up bad bobbins without taking a spindle out of production.

A 24-in. length of ½-in. flat stock (about 3 or 4 in. wide) is used as a mount for the spindle bolster. Drill a hole in the center of this piece for the bolster base.

At each end of the 24-in. bar, weld two 6-in. lengths of the same stock crosswise to one edge of the bar. Now drill a bolt hole in the 6-in. crosspieces on each side of the 24-in. bar. (You'll need four bolt holes in all.)

Bore four corresponding holes in the bottom creelboard of the twister at the end where the spindle is to be mounted. In the middle of the creelboard, saw out a section of the board so that a tape can extend from the twister cylinder to the spindle whorl.

Place the spindle mount on the creelboard, insert the four bolts



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through the board and through the 6-in. pieces of the mount, screw on nuts and tighten them. Now mount a spindle in the hole in the center of the 24-in. crosspiece. Place a spindle tape under the cylinder and over the spindle whorl. Measure, cut, and sew the tape.

When bad work is to be cleaned up, push the tape over the end of the cylinder. When the spindle is not needed, push the tape off the cylinder. (K-890) *J. B. Boyter, Fitzgerald, Ga.*

Concrete Floors Painted With Wax Applicator

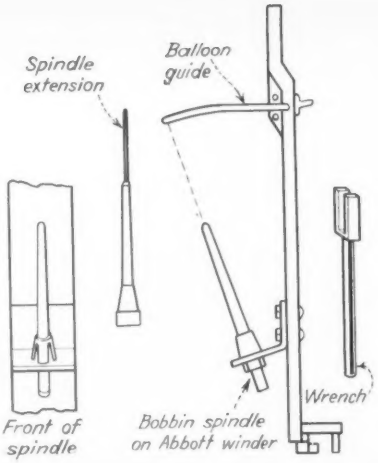
***Painting concrete floors** can be done easily and rapidly by using a household wax applicator instead of a brush. These applicators are usually made of lamb's wool, and they apply the paint smoothly.* (K-986) The Goodyear Tire & Rubber Co.

Homemade Wrench Aligns Abbott-Winder Spindles

It is necessary at times to align the spindles on an Abbott winder with the balloon guides. The spindles are supported by flat pieces of iron bent at an angle somewhat greater than 90°. The upright end of the flat iron holder is bolted to the machine, and the other end has a hole in it through which the spindle is placed and bolted securely.

If the spindle end of the holder gets bent up or down so that it is out of line with the balloon guide, the yarn will not pull off the supply package properly. If the spindle is considerably out of line, the yarn will break.

Bending the holders up or down until the spindles and guides are properly aligned is a difficult and slow job unless the fixer has a good tool. The tool we made for this purpose is shown in the accompanying sketch. It can be made of tool steel or other hard steel. The handle should be about 12 in. long and the open jaws of the tool about 4 in. long.



***This spindle-adjusting wrench** for raising or lowering the spindle holders on an Abbott winder to align the spindles and balloon guides saves up to 3 hr. per machine in one mill.*

To use the tool, place the spindle extension over the spindle with the guide point near the balloon guide. Place the open end of the wrench over the spindle holder, with the holder between the jaws of the wrench. Bend the holder up or down as needed to bring the upper guide tip of the spindle extension in line with the balloon guide.

We save as much as 3 hr. in setting the spindles on a winder since we began using this wrench. (K-887) *J. B. Boyter, Fitzgerald, Ga.*

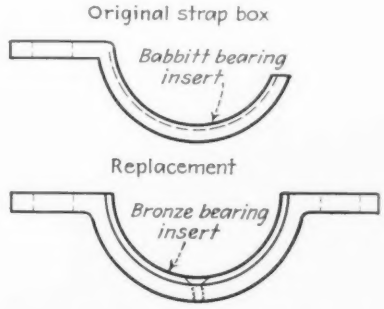
Double-Strap Boxes Give Better Support

The long mainshaft on Crane spring-needle knitting machines is supported under the cylinder studs by single open-end strap boxes. A strap box secured on only one end is susceptible to vibration and does not always maintain perfect alignment of the shaft. The bearing surface of the standard box is made of babbitt.

The manufacturer can supply, on request, a double-strap box blank. The blank is not undercut for babbitt. The bearing surface is supplied by a standard bronze bearing. The bearing is cut in half, and each half provides the bearing surface for one strap box.

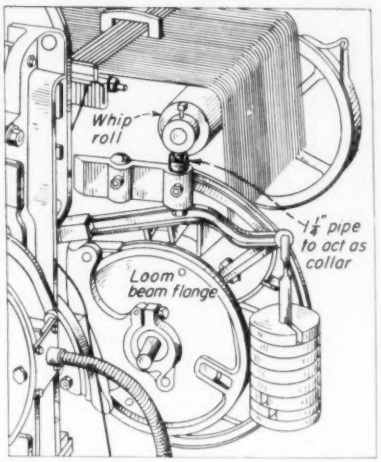
Mounting is accomplished by drilling and tapping two countersunk holes in the bearing and into the strap box, as shown in the accompanying sketch. The holes are tapped for soft brass flat-head screws. The box is secured to the table on one side by the original bolt. Another hole is drilled and tapped in the other side of the table bed for a bolt to hold the opposite side of the strap box.

In addition to providing more stable support for the shaft, thus lengthening its life, the new-type box also makes renewal of the bearing surface easier. (K-901) *Albert M. Young, Jr., Philadelphia, Pa.*



***Mainshaft support** on a Crane spring-needle knitting machine can be improved by replacing the single-strap box by a double-strap box, as shown here.*

Short Pieces of Pipe Hold Whiproll in Place



***Loom whiproll** is held clear of the beam flanges by pieces of pipe. The pipes are used as stands for the whiproll poppets.*

The whiproll poppet used for raising and lowering one end of the whiproll on a W-3 loom is held in place by a setscrew. If this setscrew comes loose, the whiproll drops down, in many cases coming to rest on the beam flange. If the whiproll does does touch the beam flange, its weight causes a drag on the beam. Uneven weaving results.

This fault can be avoided by using pieces of 1¼-in. pipe on the whiproll stands. These pipes are placed up-

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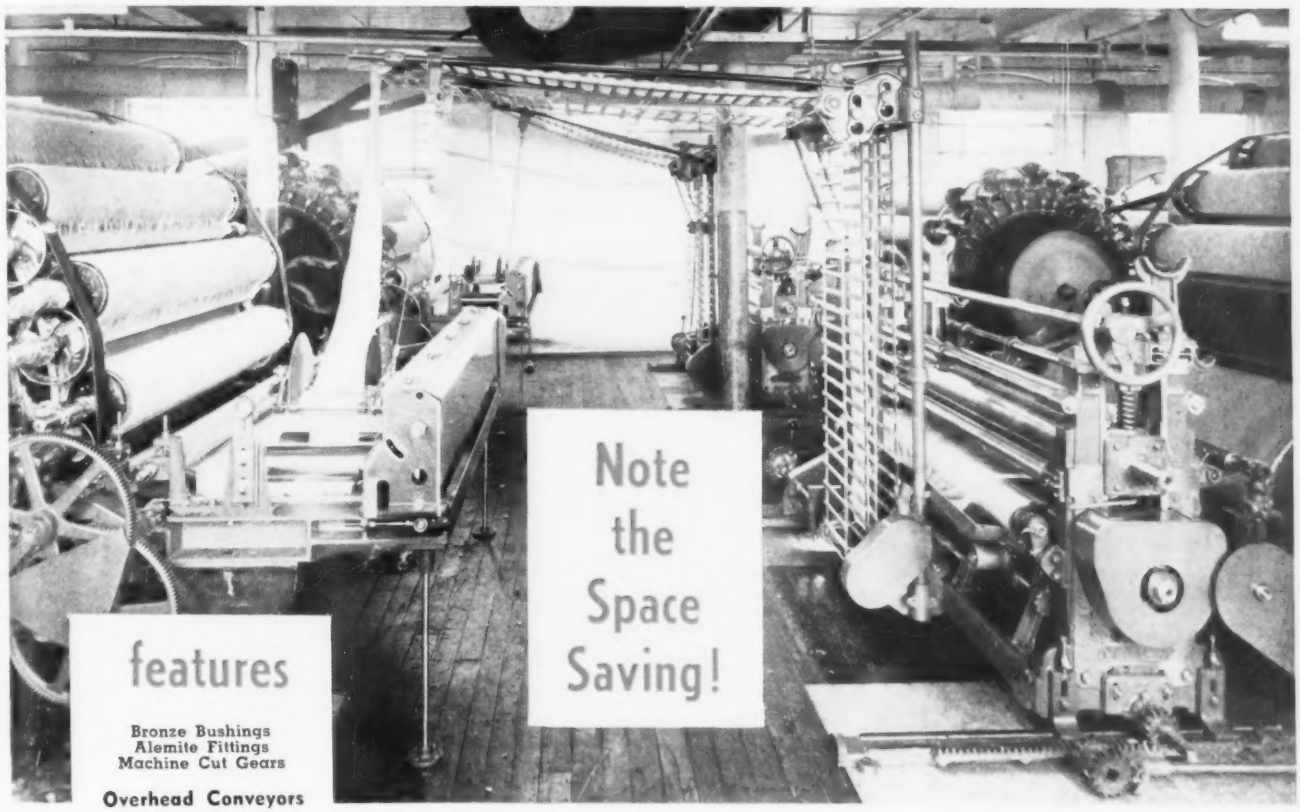

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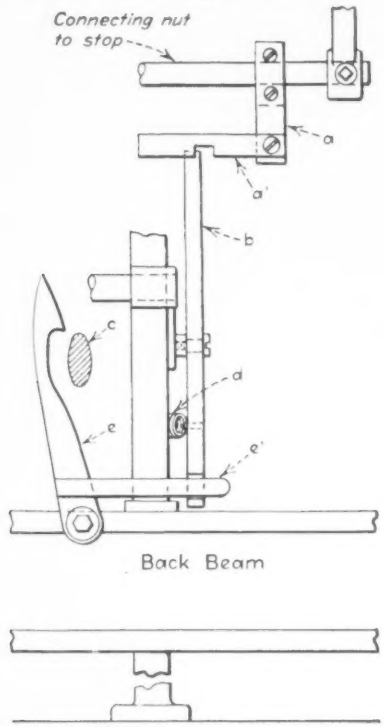
right on the stands and the whiproll poppets lowered into them. If the setscrews holding the poppets come loose, the whiproll will rest on the pipes instead of the beam flanges.

The pipes are also a help if beam flanges of different diameters are used. (K-977) George Thompson, Lawrence, Mass.

Protect Selvage Attachment On Old Reading Machines



Breaks of the selvage attachment on an old-model Reading machine can be avoided by installing the mechanical protector shown here. If selvage nuts travel too far, latch b causes arms a and a' to throw the stop rod to stop the machine.

A modern Reading machine is equipped with a mercoid switch that stops the machine if the selvage nuts are moved a notch beyond their normal travel. However, machines of earlier models were not equipped with these switches. We found that the mechanical protector shown in the sketch would prevent breakage of the selvage lever or its supporting bracket.

The arm a may be made from two pieces of cold-rolled steel and clamped to the connecting rod. (A casting secured on the rod with a setscrew will serve equally well.) If a is notched $\frac{3}{16}$ in. deep to fit a', bar a' may be secured with a single screw. Do not cut the notch in a' until latch b is in position.

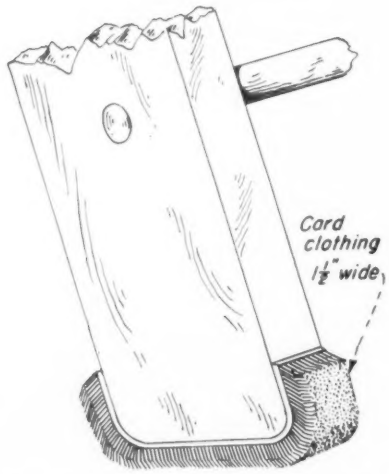
The back screw that holds the box for the catchbar shaft was faced in a lathe and tapped for the pivot screw for latch b. Lock lever e need not be over $\frac{3}{16}$ in. thick. Arm e' may be riveted or welded to lock lever e. Lever e should be pivoted directly under the center of selvage lever e.

We made a', b, and e' out of discarded carrier stock about $\frac{3}{16} \times \frac{3}{16}$ in. Bar or latch b is notched $\frac{1}{8}$ in. deep to hold lock e out of contact with the selvage lever. Latch b will have to be bent a little to make it contact the inside of arm a' while it locks or latches e'.

To finish bar a', move the selvage attachment one notch beyond its outward travel, move a' up within 0.010 in. of the outer side of latch b, and secure a' to the stop rod. Then, with b on the inside of a', move the selvage attachment one notch beyond its inward travel, and mark and cut the notch to allow a 0.010-in. clearance.

The notches in a' and b should be a little wide to allow for free movement of latch b when the selvage attachment travels too far. The operating spring d is connected to a pin in b and to another toward the front of the machine frame. (K-956) Walter A. Simond, Franklin, N. H.

Old Card Clothing Holds Ladder to Floor



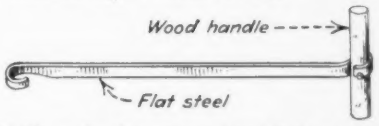
Ladders can be kept from slipping on oily floors by tacking old card clothing on the bottoms of the ladder legs. If the ladders have spike bottoms, 6-in. wooden swing joints can be attached to the legs and swung down against the floor when the ladder is in place. (K-988) The Howard Way

Rotating Metal Crank Holds Yarn Off Spool

Yarn unwinding from a spool often catches on a rough place on the spool head and breaks. A light-metal crank, pivoted in the center of the spool head and rotating around the head on a ball-bearing race, will eliminate this breakage.

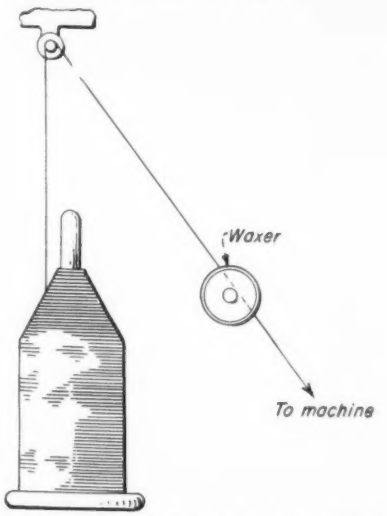
The crank we use has an eye through the outer end. The yarn is led through this eye in threading up the machine. As the yarn pulls off the spool, the crank moves around the spool head and holds the yarn clear of the spool. (K-982)

Quills Under Looms Picked up With Hook



Quills under looms can be picked up easily with the hook shown here. The hook can be made of flat stock similar to electric knock-off bars. About 4 ft. is a good length. (K-960)

Yarn Lubricant Applied on Machine



Knitting-yarn lubricant can be applied directly on the knitting machine. Two wax disks or one wax and one metal disk may be used.

It is well known that lubricating knitting yarns is a help in obtaining regular stitch formation. Two methods of lubrication are generally used. The yarn is either run through an emulsion or over wax during the winding operation.

We have found that it is sometimes best to lubricate the yarn directly on the knitting machine, particularly on flat-bed machines. Wax disks are a satisfactory means for doing it. It makes no difference whether the yarn was lubricated during winding.

The yarn can be run between two wax disks or between a wax and a metal disk. Care must be taken not to increase yarn tension too much, or fabric damage may results. (K957) J. Rab, Leicester, England.

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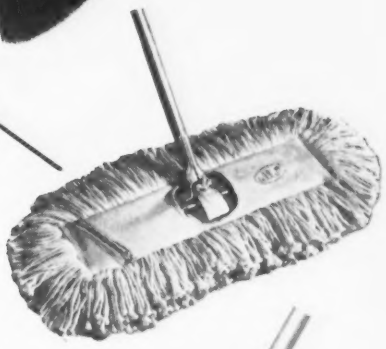

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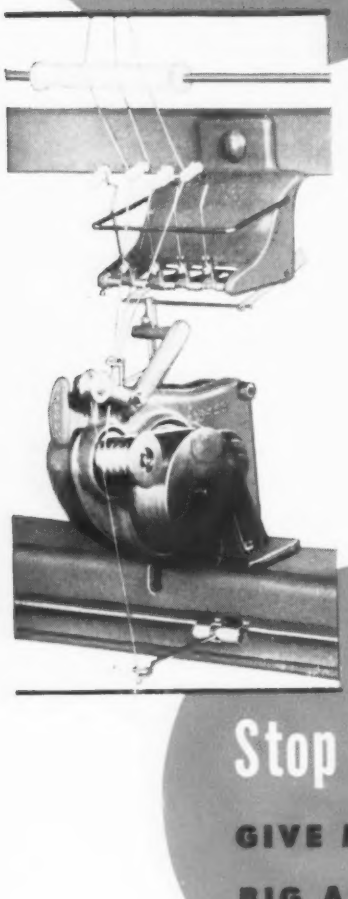

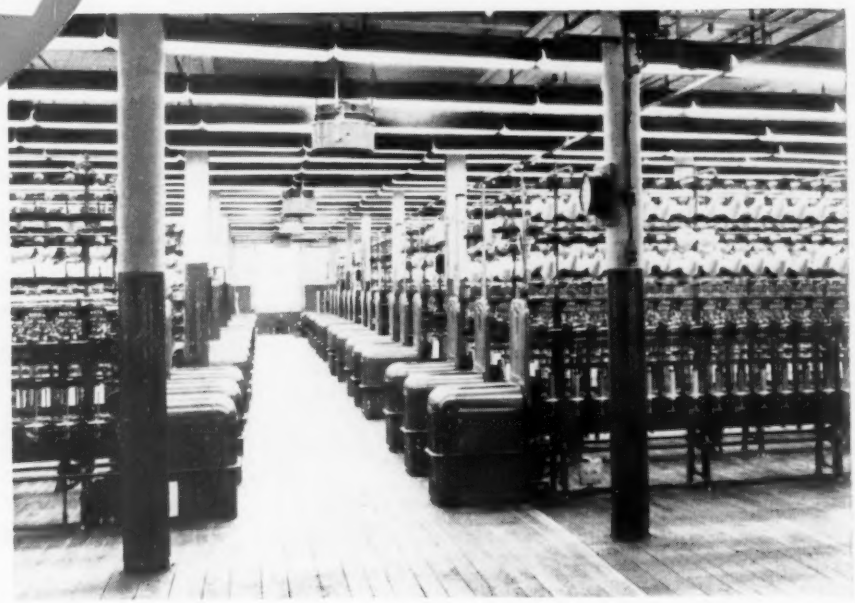

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Pointers FOR SUPERVISORS

How the Management Team Can Build Better Human Relations

By GLENN GARDINER

HOW TO REDUCE WORKER RESISTANCE TO CHANGE

GLENN GARDINER

Many textile organizations are introducing new machinery, new methods, and new equipment at this time. Others are planning to do so during the months to come. Technological change is a process that goes on all the time in our mechanized age. It is particularly accelerated in periods of competition.

Textiles will be in a stiff competitive market. First, each company invariably competes with other companies making the same product. Then, different types of textiles, as woolens, cottons, rayons, plastics, linens, silk, and others, are in competition with each other. Finally, when people have a limited amount of money to spend, there is a question whether textiles, or such products as furniture, electrical appliances, cars, or even food, get the consumer's dollar. Only by keeping production costs down can textiles hold their own. And one of the major factors in reducing production costs is technological changes.

The mechanical end of technological changes may present some problems. But they are relatively simple compared to the human factors involved. Following are some questions and answers on how the textile supervisor can prepare his workers for the technological changes ahead:

What kind of changes do workers resist?

A worker is likely to resist any change connected with his job or its working conditions. A change of work methods, a change of shifts, a change to a new operation, a change to new surroundings or new work companions—any change that will necessitate the formation of new habits, the acquiring of new information, or that may seem to affect his prestige is likely to arouse a man's active opposition or antagonism. A man may even object to a change which makes his job simpler, safer, easier or more secure if he does not thoroughly understand all factors and circumstances involved before the change goes into effect.

Why is resistance to change such a common characteristic of people?

People are just built that way. When we get used to doing a thing a certain way and our habits are fixed, we don't like to be uprooted. This is a universal characteristic. We are all that way, some more, some less. It is safe to assume that every human being will resist change unless he is prepared in advance for the change.

What is the effect of "springing a surprise" on a worker?

His first impulse is to rebel. He is likely to say "No" before thinking it through. Even though the supervisor may have the authority to enforce the change, resentment will linger for a long time. In fact, the worker may deliberately disobey instructions, or "ball up the works," so as to regain his former job.

When should a worker be told about any change which is going to affect him?

Just as soon as the supervisor is in possession of the information himself. Some supervisors will feel that this gives the worker that much more time to argue and complain. However, it is probably a good idea to give him an opportunity to "get it off his chest" a bit more gradually rather than to wait and create an explosion by a sudden announcement. Then, too, there is more opportunity to explain and reason if changes are announced ahead of time.

How should a worker be informed about a change?

It is best to announce it personally, if possible. Coldly posting a notice without giving the worker an opportunity to have his say and state his side of the case ahead of time is likely to make it all the more difficult to sell him the idea. In giving information about a change, point out whatever advantages the worker may enjoy as a result of the change. Give him all the reasons why the change is desirable or necessary. Don't just throw it down to him "cold turkey."

How can a supervisor make changes acceptable to his workers?

For one thing, try not to make changes too abruptly. If possible, make changes gradually, making one change at a time. Make changes first where you are most certain of their success. Make changes as simple as possible. Try out changes in a small way first, where you can "work out the bugs." Watch the results of changes closely so that necessary corrections can be made quickly. Use judgment in selecting the right employees to help you in making a change effective. Encourage workers to suggest changes which will mean improvement. Give careful and thorough instructions on new methods.

One thing is certain—*there will always be changes.* Our progress depends upon changes. The next months and years may see more changes than most people have experienced in half a lifetime. Therefore, it is important that every supervisor understands how to make changes acceptable to his workers.

WRONG RIGHT

Announcing changes by posting a notice may cause friction and resistance. A personal discussion with the worker is a far better method.

Round Table

FOR EXCHANGE OF IDEAS—*The Round Table is open to letters from any and all readers discussing subjects relating to mill management, production, engineering, technology, etc. Names of contributors will be held confidential if so requested, but contributions must be signed with real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table,* TEXTILE WORLD, *330 West 42nd St., New York 18, N. Y.*

Don't Let Good Ideas Die Without a Trial

Mill management seldom realizes how many good ideas die young. Because this loss follows the same general pattern time after time, it is worth studying in some detail.

Suppose a foreman gets an idea for some improvement in his department. He gives it considerable thought and can find no flaw in it. But just as he feels ready to start it through channels toward top management, he remembers a point he has overlooked. He reasons to himself, "Sure, the idea itself is all right, but it will work only if everyone cooperates. There are two or three workers that would have difficulty in grasping the details, and one or two others are too careless about such matters for it to operate smoothly. Might as well forget the whole thing rather than admit the personnel here would kill the idea anyway."

With slight variations, that line of thought has caused countless ideas to die young. Right down at the foreman level, where excellent plans so often originate, a large part of the trouble occurs. While there may be no perfect arrangement for stopping this waste of ideas, several points should be helpful.

1. Management should make it clear to foremen that final responsibility for personnel belongs at the top. Therefore, foremen are to feel free to suggest new ideas even when individual workers in the department seem to present a problem. Management will provide proper measures for ironing out the wrinkles.

2. If a new plan depends on cooperation such as all workers are capable of giving, it should be made a routine part of their jobs, the same as getting to work on time and avoiding accidents.

3. When certain employees seem to lack training necessary for cooperation, provide for additional guidance. It's less expensive than allowing a worth-while idea to die young.

Carrying out these three steps will reduce to a small number those who do not possess natural ability and who cannot be taught to cooperate. The problem they present can be met by slight changes in routines so that the new plan does not depend on them.

Management must face the question of whether personnel will be trained to meet the challenge of more modern plans or whether operation is to be held down to the lowest common denominator of present intelligence among the workers. *(R-432)*
George M. Dodson, Harrisburg, Pa.

Have You Used Blocked Stitch Burrs?

I should like to invite discussion by other knitters on the practicability of using blocked stitch burrs on spring-needle knitting machines. Although this type of burr has been available for many years, it has not, to my knowledge, been used for producing fabrics in any great quantity.

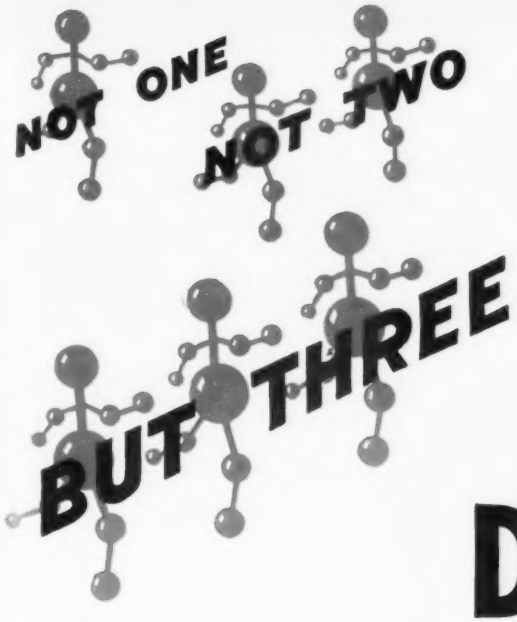
If the burr could be made to run properly, it would add much flexibility to designing procedure. However, in my experience, and in that of those with whom I have discussed the burr, it is extremely difficult to keep the burr in proper mesh with the needles.

A plug of sufficient depth to properly close the needle beard seems to occupy too much of the blade surface. The remaining blade surface allows only a shallow intrusion into the needles. Thus, a slub or knot easily throws the blades out of mesh and the fabric out of pattern. Since the burr works

(*Continued on page 170*)

TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*

"I don't know much about throwing machinery, but my husband knows how I can throw dishes and furniture!"



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A non-ionic liquid detergent and exceptionally fast wetting agent having a wide range of applications. Not affected by high or low pH solutions; good in hard water.

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Effective non-ionic scouring agent over wide pH range; not affected by hard water, usable on all types of fibers, particularly for woolen yarns and fabrics.

CERFAK N-100

A highly concentrated detergent especially good for scouring in solutions having pH above 7, and in combination with any type of alkali.

E. F. HOUGHTON & CO. *Makers of* CERFAK

Round Table

(Continued)

(Continued from page 168)

at the top of flexible needles, any deviation from the needle line also produces out-of-pattern fabric.

The shallowness of the setting makes the burr too sensitive to tension changes in the yarn being fed to it. A drag, though present for only an instant, pulls the burr out of mesh. When the burr does come out of mesh from any cause, it usually breaks or bends a number of needle beards.

Many things have been tried to correct these faults, but no good results have been obtained. In order to promote more positive meshing, shallow grooves have been ground in the plugs. This seems to help, but the improvement is so slight it is doubtful that the results are worth the time and effort involved.

Yarns being fed to the blocked stitch wheels have been run with just enough tension to control the flow. The light tension allows the burr to pull through many knots and slubs, but this solution is possible only when soft, pliable yarns are used. A hard, wiry yarn requires a fairly strong drag for positive control.

An increase in the tension of the spring that holds the burr against the needles has also been tried. This solution doesn't seem to be much good either. The prime purpose of the spring is to allow the burr to withdraw from the needles if trouble occurs. This withdrawal keeps damage to a minimum. Excessive tension nullifies the safety feature of the spring and therefore exchanges one hazard for another.

While my experiences with the blocked stitch wheel are all negative, I am greatly interested in the opinion of other knitters on this burr. *(R-429) Albert M. Young, Jr., Philadelphia, Pa.*

Time Your Changes For Worker Cooperation

When mill management complains about lack of cooperation from workers, it might well examine the situation from these angles:

Is the matter fair to personnel, or has management been thinking only of itself?

Have the facts been presented so that everyone understands them?

Have drastic changes in procedure or policy been made gradual to avoid disrupting existing schedules?

Has an educational program gone ahead of the request for cooperation?

When a review of these points indicates that everything is in good or-

ANOTHER Good Reason for using Square D Control

New "OFF-THE-SHELF" Parts Kits make normal maintenance easier than ever!

All motor starters and contactors are subject to periodic contact replacement under conditions of heavy load or frequent operation. That's why Square D has always stressed accessibility of these parts. Now, the parts themselves are packaged in easy-to-stock kits to make that replacement job even more simple.

Each kit contains all parts necessary to replace load contacts on two or three-pole contactors and starters. Parts are individually packaged in clearly labeled envelopes. An illustrated service bulletin is enclosed to provide quick parts identification and complete installation instructions.

Six different Class 9998 Parts Kits are available for servicing Sizes 0 and I manual starters and Sizes 00, 0, I and II magnetic starters and contactors.

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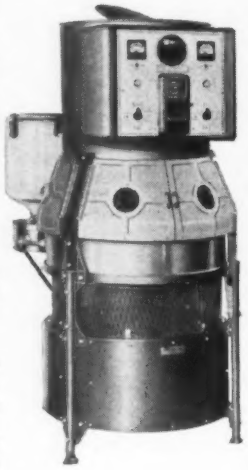
Photo courtesy Morton Bregman of The Chicago Fashion Industries

Fine fabrics ... are Atlas-Ometer tested ....

Fading, dimensional changes and loss in tensile strength due to sunlight, washing, dry cleaning and outdoor exposure are predetermined in the laboratory enabling the textile chemist and colorist to guarantee the permanence of the fine textured beautiful fabrics available today.

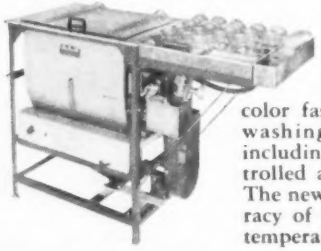
ATLAS FADE-OMETER



The recognized standard testing machine for determining the fastness to light of dyestuffs and dyed fabrics. Specimens are rotated around the Atlas Enclosed Violet Carbon Arc — the closest approach to natural sunlight — in masked holders. Temperatures automatically controlled to within ±3° F. and humidity regulated by a constant water level according to requirements of the test. Operation is completely automatic without attention from operator; can be left in continuous operation overnight.

NEW SPECIMEN SUSPENSION—Atlas has recently introduced a method of specimen suspension in the Fade-Ometer designed to increase the accuracy of tests. New type specimen holders are engaged by a new lower ring, in addition to the standard upper ring. This assures vertical alignment of all holders and equal distribution of heat and light energy for all samples.

This new holder for specimens can be used with all Model FDA and FDA-R Fade-Ometers now in operation. Holders are available in baked-on gray enamel or, at slight additional cost, dull finish stainless steel.



ATLAS LAUNDER-OMETER

The standard laboratory washing machine of A.A.T.C.C. for testing color fastness, staining, shrinking, resistance to washing and mechanical action. All factors including washing action can be carefully controlled and reproduced identically at any time. The new preheating loading table increases accuracy of tests by starting all samples at uniform temperature.

RESEARCH MODELS—Two new models for research testing have recently been added to the Atlas line of standard Launder-Ometers. These units are designed to accommodate larger samples, allowing more accurate shrinkage testing, and are available with capacities ranging from 20 pint to 6 half-gallon jars. Both machines may be supplied with vari-speed drive units for operation between 10 and 50 r. p. m.

Manufacturers of the Twin Arc and the X1A WEATHER-OMETERS

ATLAS ELECTRIC DEVICES CO.

361 WEST SUPERIOR STREET, CHICAGO 10, ILL.

Originators and manufacturers of accelerated testing devices for over a quarter of a century.

der and results are still unsatisfactory, the fault may be in the timing.

Individual workers have their own ups and downs, of course. In addition, the group as a whole has its moods. There are low periods when feelings lean toward resentment and high periods when workers seem to have a cooperative spirit. To appreciate the difference between these two attitudes is the task of a leader.

A few days of agreeable weather may put workers in good spirits. A holiday coming in the near future may do the same thing. An excellent safety record indicates high morale. The tone of suggestions from employees (helpful rather than critical) should not be overlooked; the number of petty complaints reaching the foremen should be considered a valuable guide. When the over-all pattern of these factors appears favorable, it is wise to be ready with those new plans that need worker cooperation. *(R-434)*
George M. Dodson, Harrisburg, Pa.

Foremen Meet with Management and Union

Do wage negotiations concern the foreman?

At least one big company thinks so. At the Hornell, N. Y. plant of SKF Industries, Inc., wage negotiations were under way recently between management and the union. Every foreman in the plant was given an opportunity to sit in on at least one session of the negotiations.

The reason? To instill in them "a greater acceptance of their managerial responsibilities." *(R-433)*

Reader Agrees With Formula in March Issue

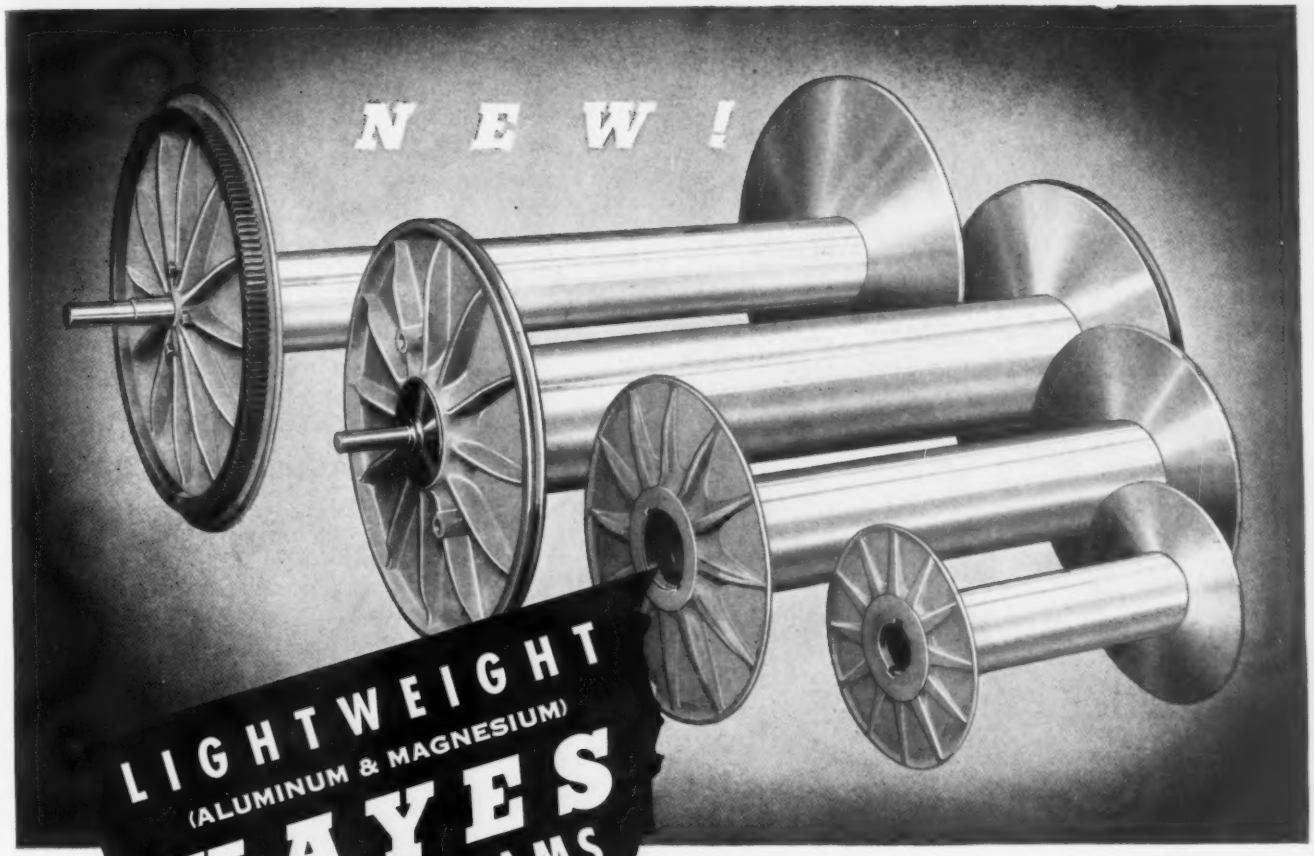
I was quite interested in item R-383 in Round Table in the Dec. 1947 issue of TEXTILE WORLD. This article gave a formula for calculating required picks per inch. I was glad to note that the formula was corrected in the March, 1948 issue [Square Root Factor Not Needed in Formula, p. 158].

I could not use the R-383 formula and arrive at correct cloth weight. The corrected formula does give the proper cloth weight.

I am making the following construction of cloth:

32 in. reed width
2,000 ends of 30s warp
50 picks per inch of 12s filling.

By the R-383 formula, I arrived at a loom weight of cloth of 4.70 yd. per lb. The cloth weight, as figured by the formula given in the March issue, is 4.05 yd. per lb.—which is correct. *(R-430)*



INCREASE MACHINE SPEEDS
REDUCE DOWNTIME

It is now possible to operate at higher machine speeds by using Hayes Aluminum or Magnesium Beams. Even at these higher speeds there are far fewer rejects than previously experienced at slower speeds. Weighing approximately half as much as conventional beams and being well balanced and true running, Hayes Beams rotate smoothly without vibration. The heads have negligible spread and are unaffected by humidity changes. *By drastically reducing the number of rejects, Hayes Beams increase your profit margin.* They will not warp, splinter or chip and there are no sharp edges to snag the thread.

These lightweight beams have many additional advantages. They reduce worker fatigue and increase the productive capacity of your manpower. *They reduce shipping costs.* Possessing great strength, they withstand years of hard wear and abuse yet require practically no maintenance.

Write today for complete information and costs whether your requirements are for Section Beams, Tricot Beams, or Loom Beams.

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2. Long Life

3. Strength to meet the most difficult requirements of Modern Textile Processing

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Hardness and uniformity of Crabb Pins is produced by the new method of micromax heat-treating equipment . . . while new methods of polishing and etching gives any desired surface.

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Write us for quotations on any of these . . . or for us to call on you. Quick delivery of all items.

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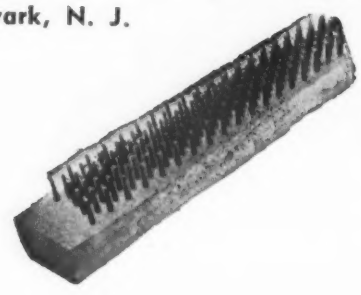
301 Third Ave., Newark, N. J.



Questions AND Answers

1947 Wool Consumption Was About 7,000,000 Lb.

Technical Editor:

Can you tell me how much wool is consumed yearly in the United States by worsted mills and by woolen mills? (9261)

Wool consumption by mills in the United States in 1947 amounted to 698,000,000 lb., scoured basis. Consumption by woolen and worsted mills was:

Worsted fabrics	336.2 (million lb.)
Worsted carpets	8.0
Woolen fabrics	189.4
Woolen carpets	164.4

Sample Knit Goods Made With Five Feeds

Technical Editor:

Can you advise us how the inclosed sample of knit goods was made and the type of machine that was used? (9262)

The fabric was made on a regular rib body machine containing two sets of needles (cylinder and dial), with about 14 needles per inch. The feeds are arranged as follows:

Feed #1—knitting on the cylinder, tucking on the dial, using a single end of cotton yarn.

Feed #2—knitting on the dial, tucking on the cylinder, using two ends of rayon yarn.

Feed #3—knitting on the cylinder, no knitting on the dial, using one end of rayon yarn.

Feed #4—used for inserting the rubber between the cylinder and dial needles.

Feed #5—knitting on the dial, no knitting on the cylinder, using one end of cotton yarn.

No Standard Method For Lining Lay and Boxes

Technical Editor:

On page 9 of the Cotton Loomfixer's Manual (Moberg), there are two different methods given for lining the lay and boxes. There is considerable argument about these two fixes, and I would like

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CONDULETS*

The illustrations show a representative selection from the thousands of types and sizes that are listed in Crouse-Hinds Condulet catalog. There is a wide variety of highly specialized types in each classification: CONDULETS for use in non-hazardous locations; VAPORTIGHT CONDULETS for use where exposed to weather, moisture, steam or non-combustible dust; DUST-TIGHT CONDULETS for use where combustible dust creates hazardous conditions; and EXPLOSION-PROOF CONDULETS for use in flammable atmospheres.

FLOODLIGHTS

Floodlights provide the most efficient method of lighting industrial yards, auto parking lots, athletic fields and play grounds. Usually it will cost much less to project light a considerable distance with Crouse-Hinds floodlights than to run cable and install local lighting.

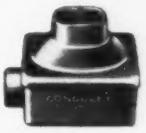
The illustrations show two of the most widely used floodlights selected from the dozens in Crouse-Hinds complete line.

Write for additional information.

**CONDULET is a coined word registered in the U. S. Patent Office. It designates a product made only by the Crouse-Hinds Company.*

Type C Obround Condulet

Type GRF Condulet



Type FS Vaportight Push Button Station Condulet

Type LB Obround Condulet

Type UNH Hook Flexible Fixture Hanger

Type FSC Vaportight Plug Receptacle Condulet

Type ALC Cushion Flexible Fixture Hanger

Type UNJ Ball Flexible Fixture Hanger

Type AHG Vaportight Flexible Fixture Hanger

Type FOH Hanger for Fluorescent Lighting Fixtures

Type VS Vaportight Hand Lamp with Rubber Handle

Type MDB Floodlight 500 – 1000-Watt

Type ARRC Condulet with Arktite Receptacle and Threaded Cover

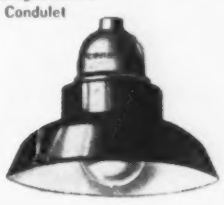
Type MUA Alumalux Floodlight 750 – 1500-Watt

Type DVSP Dust-Tight and Vaportight Panelboard

Type FSC Two-Gang Vaportight Switch Condulet

Type EVA Explosion-Proof Lighting Condulet

Type DLA Dust-Tight Lighting Condulet 100 – 200-Watt



Type VDA Vaportight Lighting Condulet 50 – 200-Watt

Type VDB Vaportight Lighting Condulet 300 – 500-Watt

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Questions and Answers

(Continued)

to have your opinion as to which is the better.

While I prefer the method recommended by Crompton & Knowles, I am open minded and would like to have a standard fix set. (9263)

There are always a number of different ways of fixing looms and setting motions, and it is doubtful that there are many standard methods. There are a dozen or more ways of timing a box motion, but they all work back to one setting although the method is different.

Crompton & Knowles recommends a method that is ideal for a new loom, where there is no wear or lost motion. Looms that have run for a number of years may require a slightly different method of setting.

The Crompton & Knowles diagram is applicable to their high-speed looms. These looms are built on "pitch," and one might say that the entire structure of fixing is based on the reed or box plate, as most all measurements are made from this position.

Unlike older, slower-running looms (in which the reed line is best in true alignment with box backs or the guides and reed) the modern high-speed loom must have the "pitch" to help prevent chafed warp yarns and keep the shuttles from flying out. The reed line is straight; but with the box pitched, the shuttle actually travels in a bow-line flight, with lay center as approximate bow center. Frequently, when warp ends are chafed or cut near the center filling fork, a straight-edge will show that the shuttle flight is off and the bow center is off from lay center a few inches, either right or left, according to which box is out.

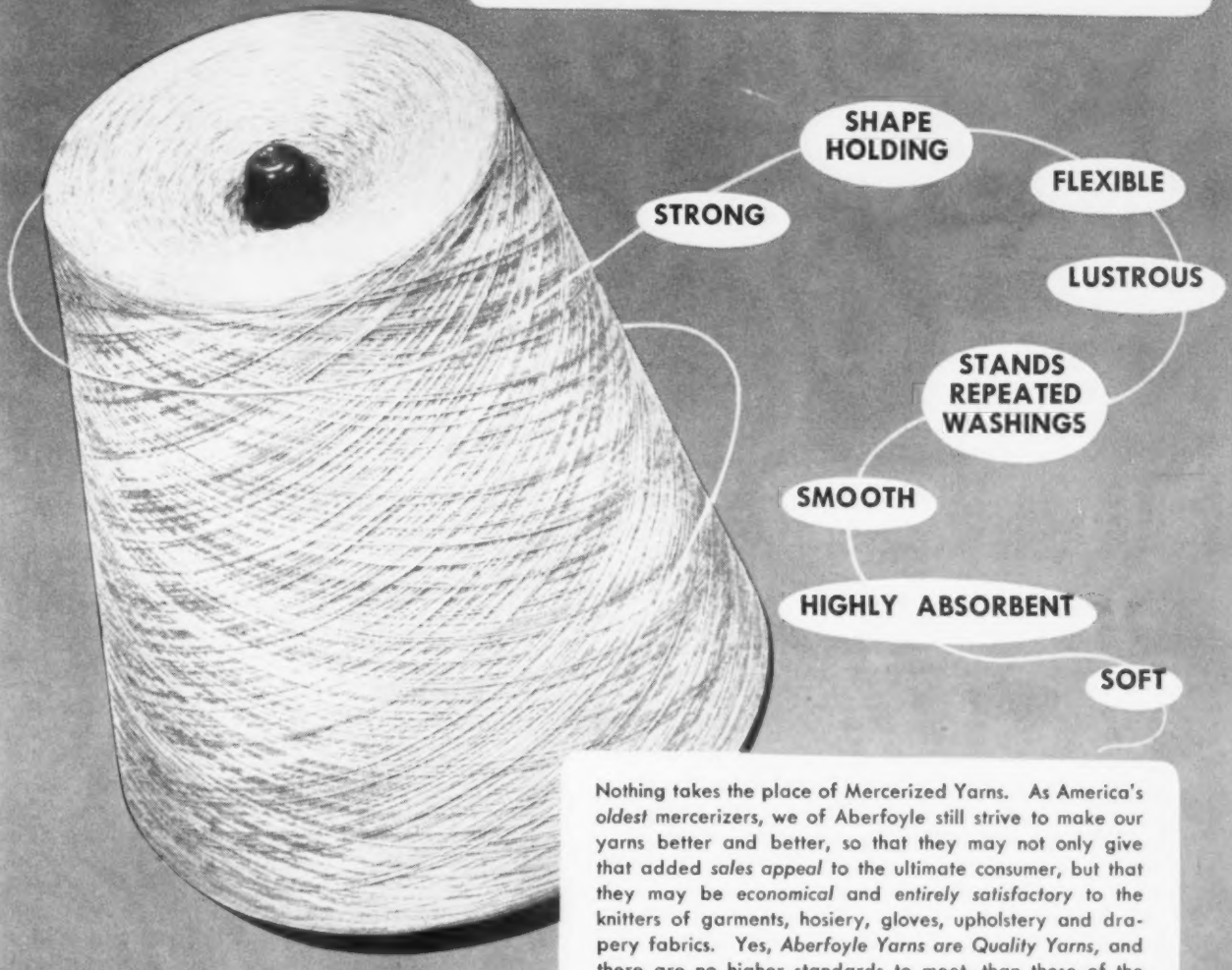
On multiple-shuttle boxes, the lay ends are adjustable to swing the ends out. Tilting the box is accomplished by the two adjusting screws at the upper end of the box-lifter rod. When older looms are speeded up, box pitch is obtained by slightly bending the box-lifter rod.

When making measurements according to the diagram, make sure the reed alignment is true. Just placing the rule inside the shuttle box and clearing the back ½ in. may throw the settings off. The exact reed line must be known and measurement made from this precise point to obtain correct settings.

On swing reeds, the reed line must be in exact alignment with the box-front guide plate. The guide plate on most C&K looms are now pinned on as well as bolted in order to prevent them from shifting and loosening. If the plates are out of line, they can

aberfoyle Durene*

Mercerized Cotton Yarns assure you of these advantages



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4 WAYS BETTER than ordinary cotton yarns
EXTRA COMFORT ---more absorbent
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EXTRA QUALITY ---lasting lustre
EXTRA SERVICE ---easy to wash
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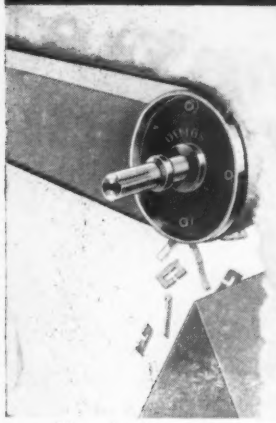

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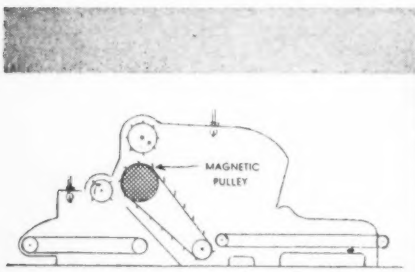
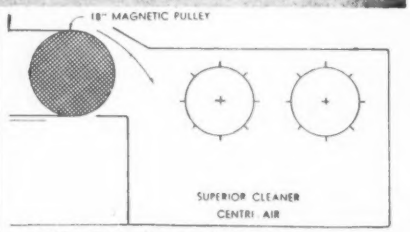
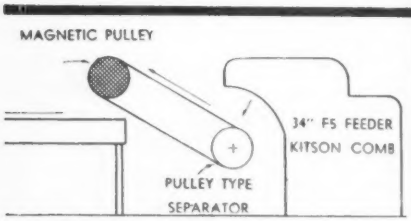


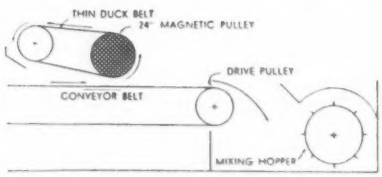
H & B Bale Breaker showing location of magnetic pulley on spike apron.



Magnetic pulley installed as head pulley on conveyor feeding cleaner. Discharge of iron is automatic.



Magnetic pulley type separator consisting of magnetic pulley, idler pulley, endless belt and accessories ahead of feeding table.



Magnetic pulley type separator installed above conveyor belt lifts iron out of cotton and discharges to side.

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Questions and Answers

(Continued)

be corrected by filing if they are too thick, or by shimming with tin foil if they are too thin. Remember that the guide plate is the focus point for many measurements, such as picking, magazine settings, and shedding. The plate must be in as near perfect position as possible.

After looms run a considerable time, box beads and box-guide grooves will show wear. It is better to put in a new box than to weld an old one. But in any case, the alignment of box cells and guide plate must be nearly perfect; otherwise, reed pitch will not be positive.

Sometimes the box-cell floor is set up $\frac{3}{64}$ in. in back and $\frac{1}{64}$ in. in front above the race board or covering. Many mill men have found this too extreme on some rayon weaves and prefer the back measurement to be approximately a $\frac{1}{32}$-in. rise and the front either level or just a faint rise over the race covering.

On the multiple-shuttle box end, most trouble is encountered with the relation of the picker to the shuttle point. It may be necessary to remove the back guide and grind some of the metal away inside the picker slot, so that the picker can move without binding. The two slots for the adjusting bolts can also be enlarged to permit better positioning of the box guide.

It is best to place the picker-rod stand next to the lay to an exact center in the lay slot, so that the shuttle point centers as it is placed on the race and moved into contact with the picker held in extreme forward position. Here, it will be noticed that the picker hole is away from point center. The picker hole should be approximately $\frac{1}{64}$ to $\frac{1}{32}$ in. farther out towards the binders, so that the throw thrusts the opposite end of the shuttle in towards the reed. The hole is always formed as the shuttle strikes the picker in its back position, and this position must be determined by making the various adjustments to the back picker-rod stand, lay-end plate, and box guide.

The second method of determining reed and box alignment is with a long straight edge. Moberg's suggestion of a 48-in. straight edge, of course, deals with the narrower loom. The length of the straight edge must be in accordance with the loom width. For a 58-in. loom, the straight edge would be approximately 72 in. in length in order to fit entirely inside the box and reach to the opposite side of the loom inside the reed stand.

Some mill men use the full-length straight edge for box and reed align-

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And.... it did not shrink

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MORE EFFECTIVE • MORE DEPENDABLE MORE ECONOMICAL FIRE PROTECTION

The Ansul 4 Extinguisher instantly smothers lint fires and protects unburned lint with a harmless, fire-resisting layer of Ansul Plus-Fifty Dry Chemical.

Ansul Dry Chemical is non-corrosive, non-abrasive and IT IS DRY. A speedy put-out with an Ansul 4 Fire Extinguisher eliminates costly shutdowns for repair of corrosion damage or for clean-up after sprinklers operate.

This small, compact extinguisher is particularly adapted for protecting many lint fire hazards common to the textile industry . . . cards, twisters, looms, etc.

Many mills, equipped with Ansul Dry Chemical Fire Extinguishers, have saved thousands of dollars by stopping lint fires FASTER without damage to delicate machinery or to the product manufactured.

For picker rooms, opener rooms and other locations where large masses of cotton are handled, the larger capacity Ansul 20 and Ansul 30 Dry Chemical Fire Extinguishers are recommended.

All Ansul Dry Chemical Fire Extinguishers are approved for use on fires involving live electrical equipment.

Ask for your copy of File No. 214. You will receive factual data on how Ansul Dry Chemical Fire Extinguishers will reduce fire losses in your mill.

Model 20 Model 30

ANSUL CHEMICAL COMPANY
FIRE EXTINGUISHER DIVISION, MARINETTE, WISCONSIN
DISTRIBUTORS IN ALL PRINCIPAL CITIES

Questions and Answers

(Continued)

ment. This method is rather cumbersome and sometimes slows down the fixer. The 24-in. and 12-in. straight edges are faster and seem to be more positive. The long tool Moberg mentions on page 9 will extend $\frac{1}{16}$ in. into the reed line on the opposite side. Actually, on the wider loom, this will go $\frac{1}{8}$ in. to $\frac{1}{4}$ in. according to loom width; and the variances are too great and help to confuse the fixer.

Another excellent tool is the 6-in. pocket rule, which can be used to determine if the reed is out when there is trouble with bang-offs, washboard shuttle back, center-filling fork, and other troubles encountered from time to time. This tool also allows a quick check-up on the box-flooring alignment with the race. Place the tool on the race near the box opening and move the edge in towards the floor. A very slight "click" is felt, and a fixer can determine if further use of the 12-in. or 24-in. straight edge is necessary.

On single-box cells, such as the magazine side of a C&K loom and both sides of a Draper or Kellogg loom, it is best to remove the loose binder in back when long straight edges are used to determine pitch with reed alignment as it may interfere with movement of the straight edge.

Where single-cell boxes permit adjustments with adjusting studs or screws, it is not hard to arrive at box-flooring pitch in relation to the race. But on boxes such as the older C&K looms and Draper looms similar to box construction (as the prewar XK), it is necessary to build the box bottom up by padding between the plate and lay end with heavy paper, thin leather, lead-foil shimming, or other suitable materials. This padding, of course, must be tapered to the desired pitch.

When it is necessary to raise the box flooring to insert the padding, the clearance between battery and box top must be checked. Adjustments to the feeler, revoker, cutter, etc. may also need to be made.

Several Methods Used For Gassing Cotton Yarn

Technical Editor:

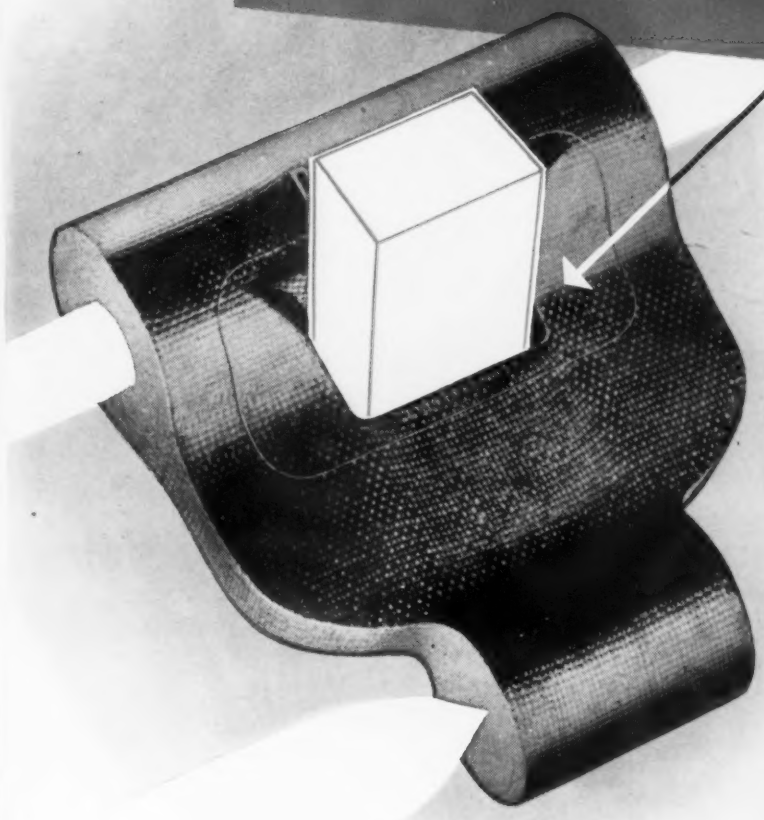
What is the most modern method for gassing cotton yarns? (9265)

The basic method of gassing cotton yarn has been the same for many years. Most cotton yarn is gassed in the warp. Spinning mills run the yarn from cones on a creel through a gas flame, generally butane, and onto a

(*Continued on page* 186)

Built-in softness

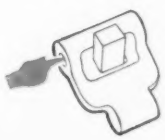
absorbs picker stick impacts



. . . provides proper cushion to the shuttle point contact

The section around the picker stick hole in all Dayton Drop Box Pickers is built with extra tough wearing compositions to take the hammerings of the stick without wear. This is one of the special "3-Point Density Control" *Dayton features* which results in a picker with the highest degree of efficiency known. Other features include an extremely hard bearing surface around the spindle hole to prevent excessive wear. To protect the shuttle, materials with high resiliency are built into the contact area. These features prevent shuttle point loosening and assure a perfect throw. If you want cleaner, faster production at the lowest cost per loom hour of operation, equip your weave room with Dayton Thorobred Pickers. For additional information write The Dayton Rubber Company, *Textile Products Division, Woodside Building, Greenville, S. C.*

Only *Dayton* Pickers are made to these THREE specifications



1 HARD AT THE SPINDLE HOLE. A hard composition bearing surface is "built in" around the spindle hole of Dayton Pickers. Daytons won't wear egg-shaped. No lubrication is required. Give extra long service.

2 SOFT AROUND PICKER STICK HOLE. The exact amount of cushion is provided at the picker stick contact point to absorb the terrific impacts. Less wear on the stick and longer life for the picker.

3 STILL SOFTER AT SHUTTLE CONTACT. A still softer composition is used at the shuttle contact point. This eliminates shuttle point loosening, helps assure a perfect throw throughout the life of the picker.

Dayton Rubber

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

STOP COLOR BLEEDING

with *CULOFIX

Preserve crisp detail and contrast of prints by using time-tested Culofix as an after treatment.

Kill bleeding troubles no matter where they occur—in the finishing bath—batching up after dyeing—in cross dyeing, etc.

Improve water fastness of direct colors and impart a very desirable soft, full finish at the same time, thus eliminating an extra finishing operation. (Where no softening action is needed, Culofix L should be used.)

If fastness to water or prevention of color migration is essential to your direct color dyeings, write for Technical Service Bulletin #204-106.1. Our technical staff is at your service without obligation.

*REG. U.S. PAT. OFF.

Arkansas Co. INC.

Manufacturers of Industrial Chemicals for Over 40 Years

NEWARK, NEW JERSEY

MANUFACTURERS' BULLETINS

A REVIEW of the month's outstanding trade literature. Items are listed one month only—no repeats.

Free FOR THE ASKING

1. **Circular-knitting machines** of the small-diameter type are described and illustrated in a folder issued by H. Brinton Co. Specific items produced by each type of machine are listed.

2. **Electric fork trucks** for loading cars and trucks are described in a leaflet from Yale & Towne Mfg. Co.

3. **Problems in tying** can be solved by Steelbinder steel strapping and equipment according to a booklet published by A. J. Gerrard & Co. A table of specifications of strapping is also included.

4. **Percentage PM-90 size** and viscosity control of the sizing solution are discussed in a recent Du Pont Nylon Technical Service Bulletin.

5. **A steel-shelving** and clothing-locker catalog has been published by Precision Equipment Co. The 8-page release also gives information about bins, drawers, and metal cabinets.

6. **Chemical analyses** available are listed in a bulletin prepared by Chemical Specialties Research Laboratories.

7. **Central lubricating systems** for textile machinery are described in detail in a booklet prepared by Bijur Lubricating Corp. Operations from combing through weaving and knitting are separately discussed.

8. **Continuous light strips** of fluorescent lamps are described in a data sheet released by Day-Brite Lighting, Inc. A complete price list is included.

9. **Chemicals used in textile** processing are described in a folder prepared by Hercules Powder Co. Special attention is devoted to synthetic fibers.

10. **"You Can Stop Leaks Instantly"** is the title of a folder published by Stonhard Co. Water seepage and leaks in masonry construction are emphasized.

11. **Speedy rpm. count** can be made with a spring steel "reed" tuned to vibrate in resonance with the rotating part, according to a folder released by Rev Products Co. Advantages over conventional counters are listed.

12. **Syton for worsted spinning** is discussed in a bulletin prepared by Monsanto Chemical Co. A brief history is included along with methods of application and advantages claimed.

13. **pH electrodes** and accessory equipment are listed in a bulletin published by National Technical Laboratories. The automatic pH indicator and spectrophotometer are also described.

14. **Dust-free sweeping** of large areas can be accomplished rapidly by a Tennant power sweeper, according to a leaflet prepared by G. H. Tennant Co. Specifications and descriptive data are included.

15. **Knitters will be interested** in a booklet prepared by H. Brinton Co. which describes the maximum-feed rib-body machine.

16. **A continuous glare recorder** which automatically records glare, reflectance, brightness, or opacity is described in a leaflet released by Henry A. Gardner Laboratory, Inc. Wide textile applications are predicted for the new device.

17. **Dust-collecting** with the Mikro-Collector is discussed in a bulletin issued by Pulverizing Machinery Co. Nine features of the unit are listed along with filter rates, dimensions, and weights.

18. **A blending feeder** which cannot be overfilled is described in a folder issued by A. P. Aldrich, Jr. This automatic-intake mechanism is discussed in detail.

19. **Selection of conveyor belts** is covered in a catalog section published by The B. F. Goodrich Co. The section explains various aspects of belt engineering.

20. **Need a whistle?** A comprehensive bulletin on industrial whistles and signals has been issued by Leslie Co. Both selection and maintenance are discussed.

21. **Improvements** in the centrifugal humidifier are summarized in a folder issued by Bahnson Co. Three types of units are described.

22. **The use of geared-motor** power in driving machinery and a presentation of the latest electric-motor models are shown in a bulletin issued by U. S. Electrical Motors, Inc.

***MILL EXECUTIVES** may secure copies of literature reviewed on these pages by using the post cards below. Fill our **COMPLETELY** one coupon for each piece wanted.*

Instructions for use of post cards on other side

Write in box the number of item describing one catalog wanted. ☐
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Good until February, 1949
TEXTILE WORLD, New York, N. Y. (Oct., 1948)

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Post Card

TEXTILE WORLD

330 WEST 42nd STREET

NEW YORK 18, N. Y.

McGraw-Hill Publishing Co., Inc.

23. Welding and cutting instruction books are described in a folder prepared by Air Reduction Sales Co.

24. Specifications for the 2-cylinder waste machine are included in a folder published by Carolina Machinery Co., Inc. The folder also contains pictures and detailed information about the CMC waste machine.

25. A corrosion-proof paint which has special applications in the textile industry is described in a bulletin issued by Prufcoat Laboratories, Inc.

26. Specifications of an improved ¼-in. portable electric drill are listed in a bulletin prepared by Portland Electric Tools, Inc.

27. "Titeflex," an all-metal flexible tubing, is the subject of a 24-page catalog recently published by Titeflex, Inc. The catalog also describes bronze, monel, and stainless-steel tubing.

28. Water purification by means of precipitation, adsorption, settling, and upward filtration is discussed in a catalog issued by The Permutit Co. Typical installations are illustrated.

29. Warp-knitting machines—their construction and operation—are discussed in a comprehensive booklet published by F. N. F. Ltd. An interesting set of 3-dimensional photographs is included along with several fabric samples.

30. A series of folders on office systems and duplicating procedure have been prepared by Ditto, Inc. Payrolls, order-billing, and purchasing are some of the subjects covered.

31. Conversion of ring-frames to long-draft, tape-drive, or larger-package is described in a recent issue of *Platt's Bulletin*. Another article on spinning calculations is also included.

32. An all-electric adjustable-speed drive for a. c. circuits is described in a bulletin issued by Reliance Electric & Engineering Co. Other electronic equipment is also illustrated.

33. Use of high-nickel alloys to overcome heat, vibration fatigue, and wear is discussed in a booklet published by International Nickel Co.

34. Construction and working principles of couplings are discussed in a 32-page catalog issued by Morse Chain Co. The new radial coupling is described in detail along with the regular line.

35. Magnesium hand trucks, so light that they can be lifted with one hand, are featured in a bulletin issued by Magnesium Co. of America.

36. The electrofluid drive, a mechanism for automatic overload protection, is the subject of a recent catalog issued by Link-Belt Co.

37. The importance of a good sprinkler system is emphasized in a recent issue of the Factory Mutual Record. Details of a tenter explosion are also published in the magazine.

38. Multi-circuit unit substations for easier installation, less maintenance, and greater adaptability where electric loads require changing are described in a booklet released by Allis-Chalmers Mfg. Co.

39. Load-Grab, an attachment for Hyster models 20 and 40 lift trucks, is described in a catalog issued by Hyster Co. Applications to textile materials handling without use of conventional pallets are also illustrated.

40. Are your floors uneven and worn? You will be interested in a folder describing a new abrasive cement which was designed by the Durracite Sales Co. to eliminate slipping and tripping hazards.

41. A new approach to fabric-cooling and conditioning machines is revealed in a bulletin from Sjostrom Machine Co. which describes its latest unit. A no-overload feature and spun-glass assemblies are discussed.

42. "Working Capital for Industry" is the title of a folder which describes the growth of an American industry and which has been released by C.I.T. Corp.

43. Tandem operation of opening and cleaning equipment is recommended in a bulletin published by H & B American Machine Co.

44. Reference material pertaining to piping is listed in a leaflet published by Tube Turns, Inc. Catalogs for all types of piping are listed.

45. Radio-frequency-heating charts, desk-lighting, and electric fans are some of the subjects featured in a recent issue of the *Westinghouse Reporter*.

46. The who, what, when, where, and why of knitting machinery are discussed in a folder published by H. Brinton Co. The firm's high-speed tubular knitter is also described.

47. Harwood aprons for Bramwell feeders are described in a pamphlet published by Geo. S. Harwood & Son. Long life at low cost is featured.

48. Using sub-zero temperatures? A comprehensive paper on low-carbon steel which contains 8 to 9% nickel has been prepared by International Nickel Co.

49. Handling of rolls, barrels, drums, and kegs is made more efficient by means of the new Rol-Truk, according to a folder prepared by Ironbound Box & Lumber Co.

50. Dry-chemical fire extinguishers for liquid fires are described in a booklet issued by Ansul Chemical Co. A pictorial explanation of the action that takes place between the chemical and the flame is included.

TO GET MORE INFORMATION

1. Fill out completely *one space* (name, title, company, address, and item number) *for each* bulletin wanted. Put only one number in each square.

2. Use only bottom card if ordering one to four pieces, both cards if ordering five to eight.

3. Detach, add postage, and mail.

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TEXTILE WORLD, New York, N. Y. (Oct., 1948)

OUTSTANDING

SOLVAY
TRADE MARK REG. U. S. PAT. OFF.

Products for the Textile Industry

AMMONIUM CHLORIDE
CAUSTIC POTASH
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LIQUID CHLORINE
POTASSIUM CARBONATE
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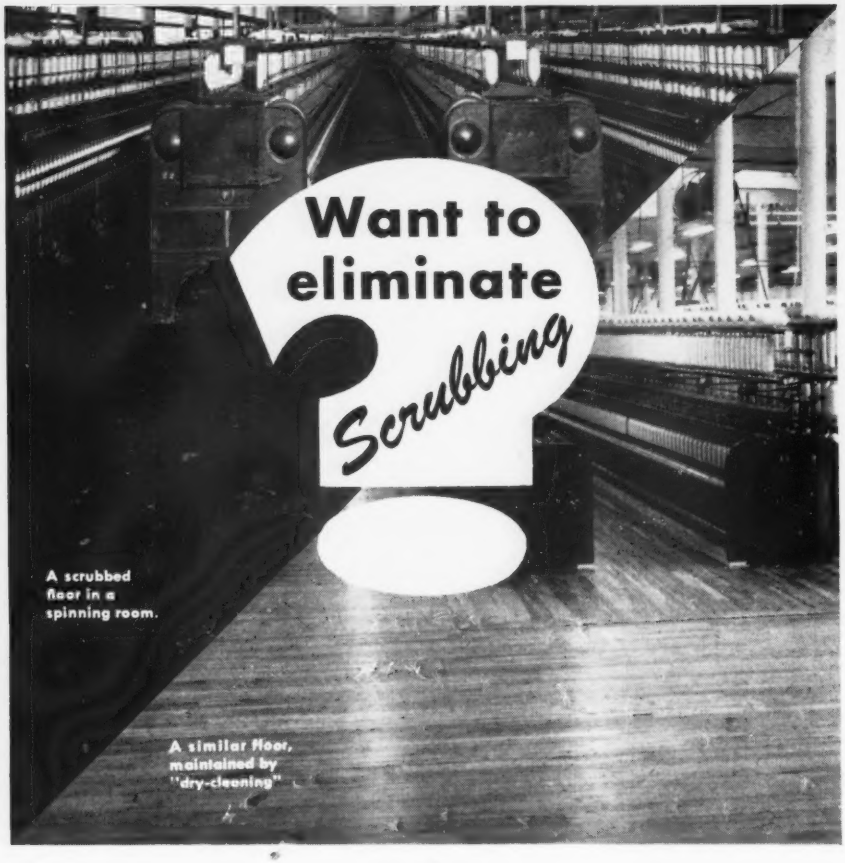


...and get cleaner floors *for less!*

What a difference when you stop scrubbing and use *modern* methods! Same traffic, oil and dirt conditions—but the "dry cleaned" floor is brighter . . . less slippery . . . easier to clean, and it *costs less to maintain.*

TENNANT FLOOR MAINTENANCE SYSTEM

1. Restores life to your floors. Gets rid of dark, rough, water-softened fibers . . . assures a clean, smooth, new-wood surface. Brings back original beauty of floor.

2. Hardens surface to resist wear. Special sealing process makes floor resistant to dirt penetration and traffic wear. Makes floor lustrous, easy to keep clean.

3. Dry Cleans to keep floor bright. A fast easy job with a Tennant machine; cleans floor like magic! Saves manhours, keeps floor smooth, safe, attractive.

FAST, EASY-TO-USE Tennant Floor Machine whisks grime from floors and picks it up in 1 operation. Various models for 8", 12" or 16" drum-type accessories for complete reconditioning and maintenance of mill floors. Has semi self-propelling action.

G. H. TENNANT CO.
2586 North Second Street
Minneapolis 11, Minnesota

Write Today!
Send for NEW 4-page illustrated bulletin on "How to Get Better Results in Textile Floor Maintenance."

The way to finer floors
TENNANT
Floor Maintenance System

Established 1870

FLOORS, LIKE ROADS ...ARE SAFER *when dry*

(*Continued from page 180*)

ball warper. A double creel is usually employed, so that the operators may set up a warp while one is being gassed.

Two sets of burners are employed. The forward burner takes care of the part of the warp that has been threaded through the machine. It burns only momentarily for this purpose. The machines are equipped with reeds and leasing arrangements similar to those on other machines used for processing cotton warps.

Most mercerizers gas yarn by running from ball warp to ball warp. The principle is the same as from a creel to a warp, but machines for this purpose generally have only one set of burners. The burner is on a carriage that can be run forward to take care of the part of the warp that is threaded through the machine. The carriage is run back when the warp starts.

Some of the older-type machines vaporize gasoline and use it as a fuel instead of using butane. Where burners are adapted to butane, butane is cheaper and easier to handle.

There is also some skein gassing done, and there has been some single-end gassing on an English machine on which the yarn runs from a spool to a spool. Warp gassing is the most economical and satisfactory method.

Wrinkles in Garments Have Physical Causes

Technical Editor:

What causes certain worsted and woolen fabrics to wrinkle? We do not refer to the wrinkles that occur during finishing processes but to those that occur after the fabric has been made into garments. (9264)

This type of wrinkling may be caused by two or three different things. First is the quality of the wool used in making the fabric. Fine wools will wrinkle worse than coarse wools, apparently because of the characteristics of the fibers.

Two other factors that influence wrinkling are the construction of the fabric and the amount of twist in the yarn. A dense fabric that does not permit excessive expansion of the yarns when they are placed under stress wrinkles less than a more loosely woven fabric. High-twist yarns likewise resist expansion and wrinkling.

If there are mechanical strains in the fabric, wrinkling will occur. The way to prevent wrinkling from this cause is to remove all mechanical strains from the fabric before the cloth is dyed. A crabbing operation will usually eliminate the strains. Crabbing aids in setting the fabric so that stretching and contraction (which cause wrinkles) are eased.

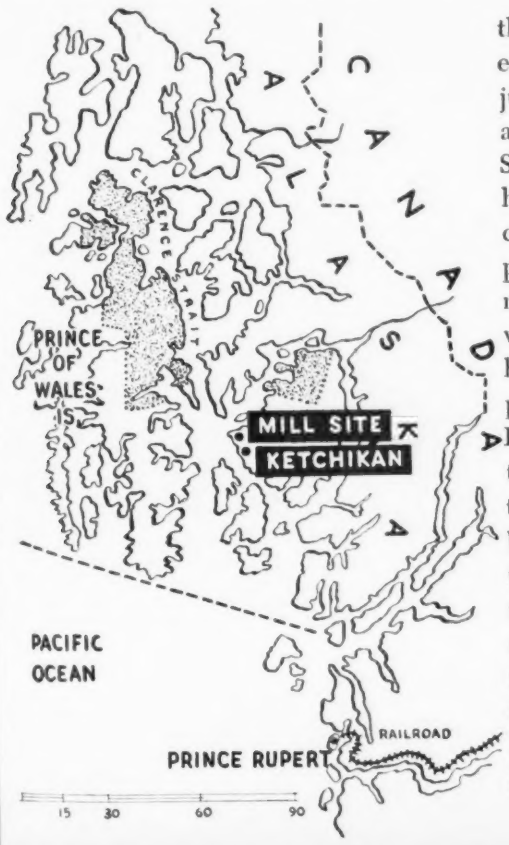
Rayon Reports

Prepared Monthly by American Viscose Corporation, New York, N.Y. OCTOBER, 1948

New pulp source to meet future needs of rayon production

In order to meet the anticipated increase in the rayon requirements of its customers, American Viscose Corporation has joined with Puget Sound Pulp & Timber Company of Bellingham, Wash. in the organization of the Ketchikan Pulp & Paper Company to produce wood pulp in southeastern Alaska.

Ketchikan, headquarters for the new organization, is located on Revillagigedo Island just off the coast of Alaska about 650 miles northwest of Seattle, Wash. (see map). Near here a new mill—with a daily capacity of 300 tons of high alpha pulp—will be built starting next summer. The timber involved is virgin spruce and hemlock located for the most part in the northern half of Prince of Wales Island across the strait from the mill. Scientific conservation practices will be followed in utilizing these timber resources, thus assuring the textile industry a stable supply of one of its basic raw materials for generations to come.



Map showing location of projected mill. Shaded areas show extent of timber resources.

A recent advertisement in the Avisco public relations series that has proved unusually successful in creating interest in non-woven rayon products. Although it appeared only in The New Yorker, Time, Wall Street Journal and Journal of Commerce and contained only the most casual "buried" offer, several thousand readers have written in for samples of the napkins.

MAKE USE OF *Avisco*®
4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION
America's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

RAYON 20 YEARS AGO

New York, October 1928—New York University School of Retailing is offering a course on "Rayon." The curriculum includes history and processing of rayon, detailed demonstration and study of different constructions, and the use of rayon in apparel and interior decorations.

New York, October 1928—Rayon Yarn Association, a body composed of dealers and processors of rayon, incorporated in New York State to foster trade and commerce among members, reform abuses and procure uniformity.

New York, October 1928—Active interest shown by hosiery manufacturers in non-luster rayon. Some houses unable to meet demand.

Stop Corrosion

with PRUFCOAT PROTECTIVE COATINGS

In the presence of strong corrosives like caustic soda and acetic, formic, sulphuric, nitric and phosphoric acids, textile users report *Prufcoat outlasts any other air-drying metal or masonry paint.* Small wonder, because Prufcoat gives top performance where conventional paints fail. A synthetic resin coating, Prufcoat applies by brush, air-dries to form a tough, acid, alkali, oil and water-proof film. Thus, Prufcoat gives *positive protection* from corrosive spills, drips and fumes whether you apply it on walls, ceilings, floors, pipes, vats, ducts or machinery. Yes, on *any* surface *Prufcoat saves you money because it lasts longer, gives better protection.*

User reports* show

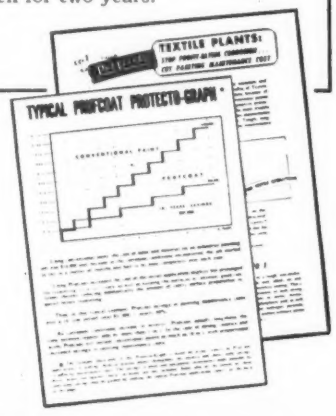
Prufcoat *Performance-Proved*

"Prufcoat on box machine, continuous dye machine, bleach machine, mercerizers, cloth bins and other areas in bleachery and dye house—time between repaint jobs more than doubled."

"Have not found anything to compare to Prufcoat."

"Only paint that has stood up well for two years."

**Taken from reports on file at Prufcoat Laboratories, Inc.*



Get New Textile Bulletin and Protecto-graph Plan

. . . shows how Textile Plants can cut painting maintenance costs. Write for your copy today.

Prufcoat Laboratories, Inc.
63 Main St.
Cambridge 42, Mass.

Seven attractive colors that apply like paint to metal, masonry or wood

PRUFCOAT
PROTECTIVE COATING

SAVES MORE BECAUSE IT PROTECTS MORE

PTI Exposition Program

(*Continued from page 137*)

awards the degree of Bachelor of Science in Textile Engineering for successful completion of its four-year course.

The scope of the institute curriculum has been tremendously broadened to make sure graduates will be informed on all major topics when they enter the complex textile industry. A comparison of 1938 and 1948 courses of study offered, as shown on page 137, will highlight this widening of educational horizons. In addition to its daytime program, the institute also offers a variety of evening courses to serve persons actively connected with the industry who wish to broaden their knowledge and ability through spare-time study.

These expanded courses, together with the increasing number of men and women who want to study at PTI, are two important reasons why a new, larger plant for the institute is so urgently needed.

875 STUDENTS. The problem can be stated statistically with considerable effectiveness. Officials of the institute declare it has a normal maximum capacity of about 275 students. Yet during the 1948-49 school year, now under way, despite stiffening of standards which must be met by prospective students, total enrollment has pushed up to about 475 students. In addition to the daytime figures given, evening classes run to a total of about 400 additional students. The first building to be constructed of the institute's new plant will contain about 90,000 sq. ft of floor space, nearly three times that available at present. This building will contain classrooms, laboratories, a cafeteria, faculty offices, student-recreation rooms, and a power plant for heat and steam.

Equipment already installed at the present location of the school will be moved to the new site. Plans also embrace replacement of some equipment, modernization of other machinery, and installation of some new machines. Enlarged research and testing facilities will make possible broadening of the handling of research projects for private industry and the government. Some 25 to 30 such projects have already been completed, and between 8 and 10 projects are currently under way.

Total cost of the building currently under construction, plus cost of the site and improvements and machinery and equipment expenses will run to just over $2,000,000, according to foundation figures. Of this, $1,300,000 has already been raised.

HOW MUCH MONEY CAN NEW DU PONT "LUDOX"

☐ save you? ☐ earn you?

Already. . . many textile men are using this new Du Pont chemical to improve fabrics . . . speed production

Whether you are processing natural or synthetic fibers or fabrics, chances are that the new Du Pont "Ludox" Colloidal Silica can help you produce better goods, expand sales with new products or increase production.

Offers new economies and applications

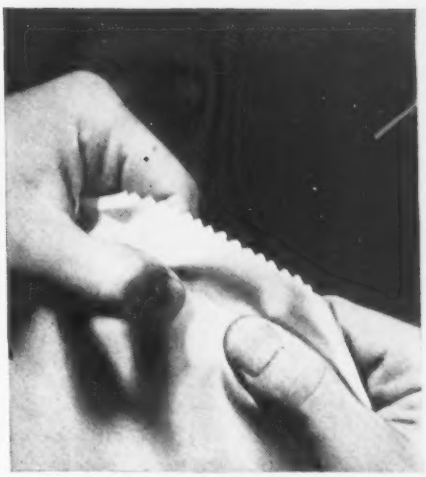
"Ludox" now comes to you as an aqueous 30% colloidal solution of almost pure silica particles, each having a size less than 1/1,000,000 of an inch. It is chemically reactive, highly fluid and substantially free of alkali. This new high concentration gives "Ludox" a much broader range of usefulness—with maximum economy.

Checks fiber slippage

Textile men have already reported excellent results in treating both fibers and fabrics with "Ludox." It has been found, for example, that "Ludox" checks yarn and fiber slippage by increasing fiber-to-fiber friction, and that the increased friction also strengthens the yarn and permits lower twist. This helps increase production, as well.

Many other uses

Others are using "Ludox" to improve sizes and coatings for added bond and film strength, increased friction and water resistance, and less dry tackiness. "Ludox" also has a mild delustering effect on rayons. It has a minimum stiffening effect on the fabric and is not dissolved by dry cleaning solvents. Users are finding *new* ways of applying "Ludox" to their advantage.



Do you have a slippage problem? "Ludox"-treated fabrics, like this rayon, show outstanding resistance to yarn and fiber slippage.

How can "Ludox" help you? A Du Pont Technical Service man will be glad to visit your plant and study your problems.

●

Get these helpful facts

Clip the coupon below for your copy of our Technical Bulletin on "Ludox."

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Colloidal Silica
BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

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Grasselli Chemicals Dept., Wilmington 98, Del.

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The 48" Tolhurst Suprex Extractor reduces extraction time on many textiles by as much as 40% to 50% because it operates at the amazing speed of 1000 RPM.

Tolhurst's Suprex is the only 48" extractor built which operates at this high speed without shaking the case. You can balance a small coin on its edge on the case even when the basket is rotating at full speed! This freedom from vibration is accomplished by Tolhurst's patented method of suspension which permits the extractor basket to rotate independently around its true center of gyration. The end result is that the Suprex can handle much greater out-of-balance loads, extracting them quickly, efficiently and safely. Standard equipment on the Suprex includes stainless steel basket, stainless steel safety cover, automatic timer and quiet "V" belt motor drive. The standard Suprex Extractor is designed for general mill service. For extracting cotton raw stock and for other applications where high production is required, the Suprex can be equipped with a frequent-start motor.

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Free! NEW CATALOG

Write today for your copy of the new, attractive 20-page catalog featuring the Suprex and other Tolhurst textile extractors. Contains illustrations, specifications, dimensions and floor plans on Tolhust extractors from 12" to 96" in diameter.

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AMERICAN MACHINE AND METALS, INC., Dept. TW
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Please send, without obligation, your new catalog, "Tolhurst Extractors for the Textile Industry"

Firm Name_____

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In addition, before the building and modernization program can be called really complete, certain other expenditures must be made. The institute has long been handicapped by lack of dormitory facilities. It is hoped that funds may be contributed so that dormitories can be built and ready for occupancy by the time the new classrooms open. An auditorium, which would also function as a gymnasium, is likewise highly desirable.

An endowment fund is also needed, to safeguard the investment in an enlarged faculty, to allow for increased staff requirements, and to provide adequate maintenance funds.

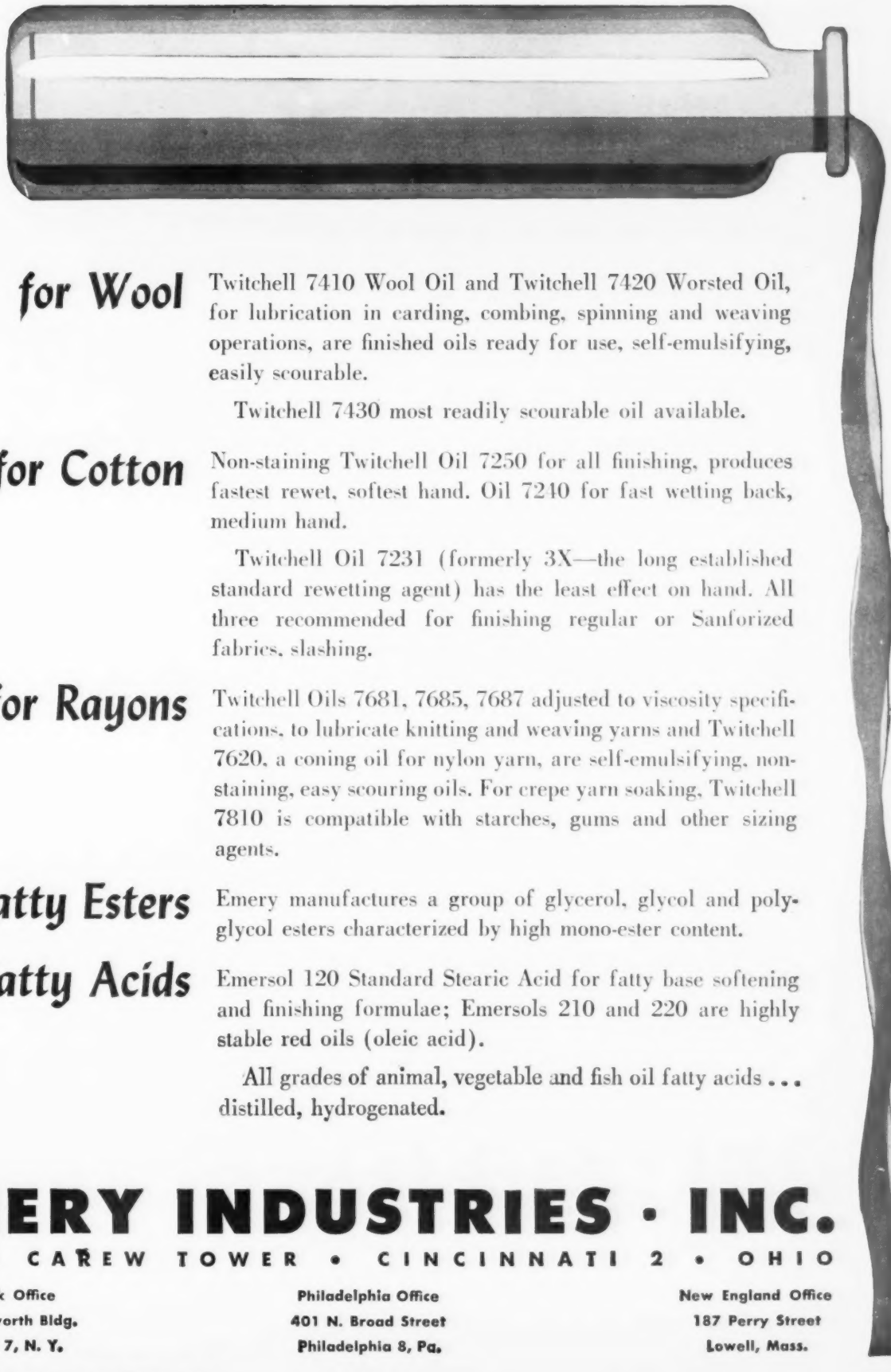
The cost of these desirable additions to the present program, plus some $800,000 needed to complete present undertakings, indicates the necessity for the foundation to raise approximately $2,000,000 in addition to funds already secured. A campaign aimed at meeting this need is now under way. National chairman for the campaign is Charles W. Carvin, an alumnus of the institute, class of 1923. Mr. Carvin is president of Charles W. Carvin Co., Inc., and owner of a controlling interest in Pondell Fabrics, Inc., New York rayon converters.

Philadelphia Textile Institute is said to be the only undergraduate school devoted exclusively to textile education which is operated under private, rather than governmental, auspices. An indication of how closely the institute is woven into the fabric of the industry can be found on examination of the names of the men who comprise the board of trustees of the PTI Foundation, the board of governors of the institute, and the officers of the PTI Alumni Association. Millard D. Brown, president of Continental Mills, Inc., Philadelphia, is president of the foundation trustees. F. Everett Nutter, vice president of Goodall-Sanford, Inc., Sanford, Me., is chairman of the board of governors. Robert A. Smith, head of the woolen and worsted division of the Textile Research Department of American Viscose Corp., Marcus Hook, Pa., is president of the alumni association.

The close liaison between the institute and the industry has resulted in several benefits to both. It has made possible coordinating institute planning and activities with the industry. It has assisted considerably in the success of the annual National Textile Seminars sponsored by the institute for the last three years.

WORK IN MILLS. Close connection with the industry has been largely responsible for the practice—now a requirement for graduation—of having all students actually work in textile

Emery Products for Textiles



for Wool Twitchell 7410 Wool Oil and Twitchell 7420 Worsted Oil, for lubrication in carding, combing, spinning and weaving operations, are finished oils ready for use, self-emulsifying, easily scourable.

Twitchell 7430 most readily scourable oil available.

for Cotton Non-staining Twitchell Oil 7250 for all finishing, produces fastest rewet, softest hand. Oil 7240 for fast wetting back, medium hand.

Twitchell Oil 7231 (formerly 3X—the long established standard rewetting agent) has the least effect on hand. All three recommended for finishing regular or Sanforized fabrics, slashing.

for Rayons Twitchell Oils 7681, 7685, 7687 adjusted to viscosity specifications, to lubricate knitting and weaving yarns and Twitchell 7620, a coning oil for nylon yarn, are self-emulsifying, non-staining, easy scouring oils. For crepe yarn soaking, Twitchell 7810 is compatible with starches, gums and other sizing agents.

Fatty Esters Emery manufactures a group of glycerol, glycol and poly-glycol esters characterized by high mono-ester content.

Fatty Acids Emersol 120 Standard Stearic Acid for fatty base softening and finishing formulae; Emersols 210 and 220 are highly stable red oils (oleic acid).

All grades of animal, vegetable and fish oil fatty acids . . . distilled, hydrogenated.

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By eighty-two years of dependable yarn dyeing service to many exacting customers, Globe has given quality significance to the label—*"Yarn dyed by Globe."*

Ample modern equipment for all types of yarn dyeing and a smoothly functioning organization make good our slogan—*"You can Rely on Globe"*

We do package dyeing on tubes, skein and warp dyeing, and warp mercerizing.

Yarns we process include cotton, rayon, nylon, worsted, linen, blend and novelty yarns.

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mills for at least two summers during their years at the school. As has been pointed out by PTI Director Bertrand W. Hayward and Dean Richard S. Cox, this practice has proved mutually beneficial to employers, students, and the school.

To employers, the plan offers an opportunity to preview, on the job, students whom they may wish to employ after graduation; cooperating employers are given first choice of graduates who have worked in their plants. Moreover, the actual plant experience (in addition to the broadened courses of study offered) has resulted in cutting in-plant training time for PTI graduates to about six months, considerably below the average time for industrial orientation of college graduates in industry generally. The opening of a placement office now makes certain increased effectiveness of this phase of its operations.

Last year, 180 different textile firms cooperated in this summer training program; there is still room for more, however, and institute officials state they will be pleased to hear from additional employers who would like to learn more about how they can take advantage of this opportunity.

A summation of the challenge which Philadelphia Textile Institute is planning to meet can perhaps best be made by two short quotations. The problem is brought into sharp focus by this brief statement from a report of the President's Commission on Higher Education: "All the professions are urgently in need of leadership, of professional statesmanship. They need men who possess disciplined imagination, social awareness, and elasticity of judgment, men who can see beyond the details of their own jobs to recognize professional problems and obligations and to take constructive and far-sighted action about them."

How Philadelphia Textile Institute administrative officials view their part in this larger picture is indicated in a quotation from a recent talk by PTI Director Hayward: "Education, as an essential instrument in our dynamic economy, is a challenge to American business. . . . I am willing to stand on the simple prediction that, properly supported, the Philadelphia Textile Institute can return to the industry trained, educated leaders who will contribute to and earn for the industry many times the amount to be contributed for our development. We shall do this by working assiduously to prepare textile engineers. . . . In addition, we shall provide sufficient general education so that our engineers shall be educated individuals capable of understanding and participating positively in our complex social order."

Operates Efficiently in continuous service!

JOY WG-9

A DEPENDABLE AIR COMPRESSOR

CYLINDER LINERS ARE REPLACEABLE ON THE JOB

20 TO 150 P. S. I.
153 TO 822 C. F. M.

The Joy WG-9 vertical compressor is produced in sizes 20 to 150 P.S.I., 153 to 822 C.F.M., and is designed for 24 hour per day service where necessary and for specialized requirements in many industries.

HEAVY DUTY

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FULL FORCE-FEED LUBRICATION

ANTI-FRICTION MAIN BEARINGS

LONG LIFE "DUAL CUSHION" VALVES

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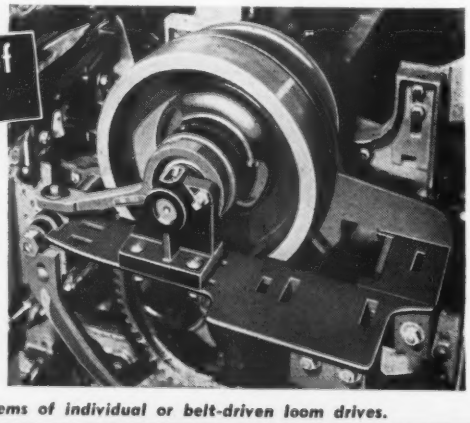
HUNT MOTOR DRIVES

make weaving more profitable!

Flywheel with removable ring gear is precision machined, and balanced in Hunt Individual Motor Drive. Absorbs intermittent shock of pick and lay motions.

Direct attachment to loom side integrates motor with loom; eliminates crankshaft strain. Ball thrust bearings save power, reduce friction, keep gears and crank arms in alignment.

made by the makers of HUNT SPREADERS



HUNT BELT-DRIVEN FLYWHEEL DRIVES

Particularly efficient when installed with patented Hunt Spreaders on older model looms. Starts from any position. Replaces "tight-and-loose" pulley drives. Flywheel interchangeable with Hunt Individual Motor Drive.

Write us for help with problems of individual or belt-driven loom drives.

HUNT MACHINE WORKS
INCORPORATED
GREENVILLE, SOUTH CAROLINA

Southern Conference

(*Continued from page 149*)

It is not always the company which has the best working conditions and pays the highest wages that is rated by the public as the best in the community, Mr. Chase declared. "Sound policies are not enough, they must be known and understood by the community."

Lawrence A. Appley, president of the American Management Association, in the opening address of the conference, pointed out that management which cuts its personnel and industrial-relations activities may save a few thousand dollars but stands to lose even more by such curtailment.

He pointed out that competitive survival in the future depends upon the skill with which a management can increase individual productivity of workers. Technological skill alone will no longer determine the future of business. Skill in human relations will determine survival and the capacity of a company to produce and distribute its products at a price the consumer can pay.

J. Handly Wright, director of industrial relations, Monsanto Chemical Co., presented some interested facts on employee-attitude surveys. He concluded that there are dangers ahead if maladjustments in public and industrial relations are not eliminated.

Recent Opinion Research surveys in various plants show workers listing what they expect of their jobs in the following order of importance:

1. Definite understanding of what is expected of me in my job.
2. Fair and understanding supervision.
3. Assurance that my job will be permanent as long as I do my work satisfactorily.
4. Assurance that I will get advancement if I am qualified when a better job opens up.
5. Assurance that I will be paid as much as conditions permit.

As for opinions of foremen, they want the following information and help:

1. How to handle people.
2. The company and its policies.
3. Training new people.
4. Production operations, including processes and cost analysis.
5. Courses in interpretation of union contracts.
6. A study of equipment and materials.

Macon Miller, director of industrial relations, Marshall Field & Co., Spray, N. C., said that the solution to many of industry problems is in good personnel administration. He said that many industry labor problems would

AS *Modern* AS THE *Rayon Industry*

AND STANDARD FOR THAT INDUSTRY

Photo Courtesy Liberty Throwing Company

NOPCO* 1111

PREMIER CREPE SOAKING OIL AND WARP SIZE SOFTENER

The rayon industry—one of the *most modern* of industries — turns naturally to *modern* machines, *modern* methods and *modern* processing materials to help increase volume, enhance quality and lower production costs — turns also to NOPCO 1111, acknowledged Standard of the Industry. Why?

Because today NOPCO 1111 means—as it has meant for more than a quarter of a century—many unique advantages for the Rayon Throwsters and Weavers throughout the world.

IT MEANS . . . unsurpassed softness and lubricity, higher winding efficiency, reduced ends down, fewer knots in yarn, more nearly perfect finished goods . . . controlled pebble . . . easy removal during boil-off . . . no volatilization in drying . . . complete freedom from oxidation and rancidity . . . plus other advantages that make NOPCO 1111—now as always—the premier product of its kind.

Read the two booklets widely accepted by the Rayon Industry for basic facts—"Important Points Regarding Rayon Warp Sizing" and "NOPCO 1111—Soaking Oil for Rayon Crepe Yarns". These valuable NOPCO booklets are available upon request.

NOPCO CHEMICAL COMPANY, Harrison, N.J.

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NOPCO EVOLVED THROUGH RESEARCH

SAYS A TEXTILE PRINTER

"I LIKE ••• METLKOR* FURNISHER BRUSHES ••• They last months longer"

A leading printer (name on request) says, "Prior to using Jenkins' 'Metlkor' nylon bristle brushes, we used wooden furnisher brushes. Then we got a sample Jenkins' brush. It far outlasted our old brushes. We used to buy a dozen wooden brushes every few weeks. We haven't had to replace a Jenkins' 'Metlkor' brush in months."

You, too, will find you get longer brush life, and save money in many other ways when you use Jenkins' "Metlkor" brushes.

*Reg. U. S. Pat. Off.

"Metlkor" Furnisher Brushes, Blanket Washing Brushes, Shearing and Brushing Machine Brushes, Pressing and Carding Machine Brushes and all others for textile use.

Write today for fully illustrated catalog of Jenkins' "Metlkor" nylon, fibre or china Bristle Brushes.

M. W. JENKINS' SONS, INC.

Manufacturers of Industrial Brushes Since 1877

CEDAR GROVE, ESSEX COUNTY, NEW JERSEY

be quickly solved if management would provide adequate training and education of foremen in the complex problems of management. Lack of understanding of management problems by employees leads to misconceptions of many functions in the nation's economic progress, Mr. Miller declared. He said that a survey of foremen showed that 21% felt more like workers than as part of management, 21% said they were in-between, and 1% said they did not know.

Pad Dyeing

(*Continued from page 125*)

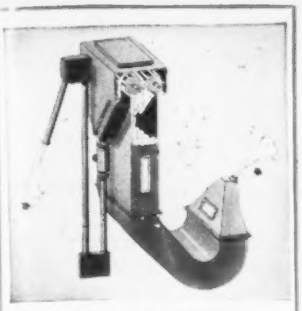
several forces working on the system simultaneously. There is resistance to dye solution passing through the nip due to pressure between the rolls.

There is a force in the opposite direction which is the tendency of the liquid to carry on through the nip in the direction of the running cloth; this force varies with the speed of the padder. There is also the tendency for the revolving rolls to carry the dye solution into the nip.

As this dye solution is released further and further in the nip, there is more and more necessity for the solution to have to filter back through the fabric in a direction contrary to the fabric's motion. Thus, the resistance of the fabric to the flow of liquid is another force acting on the system. Equilibrium in this system will depend upon the balance between these forces.

The percent pickup decreases as the force per unit area between the squeeze rolls increases. It was shown that the effective pressure (lb. per sq. in.) between the pad rolls depends upon four things: (1) the force applied, (2) the hardness of the rolls, (3) the size of the rolls, and (4) the thickness of the rubber covering.

Pickup is also affected by speed. Using the same pad box, the time of immersion is decreased as the speed of padding is increased. If the size of the pad box is varied, it is possible to vary the speed of padding and at the same time maintain a constant time of immersion. Experiments show that the pickup or tendency of the liquid to carry on through the nip in the direction of the moving fabric is usually increased by an increase in the speed of padding. The increase in pickup with speed is probably due to two things: (1) the force with which the liquid moves forward due to its own velocity and (2) the time of contact at the nip. The time of nip contact is important because of the resistance to any change in conditions due to the inherent inertia of the cloth-liquid system and the lag be-



NEW HIGH-SPEED BLEACHING BOX FEATURES:

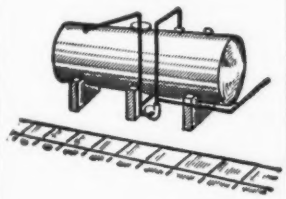
1. Higher bleaching speeds—limited only by washer capacity.

2. Improved piling mechanism—positive pulling draw reels remove cloth faster than previous designs.

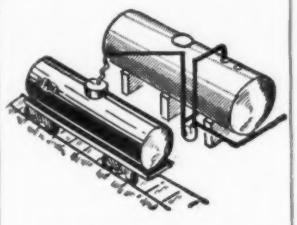
3. Increased capacity—more cloth can be handled without increase in the size of the equipment.

4. Reduction in floor space requirements—overall length of J-Box has been reduced by 25% or more.

FOR GREATEST ECONOMY, CONSIDER:



TANK STORAGE AT THE MILL



TANK CAR DELIVERIES

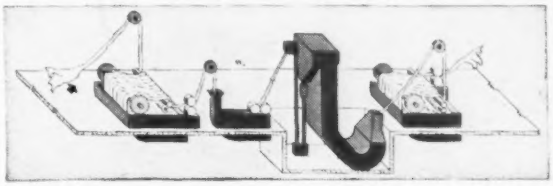
If you need 5000 lbs. or more of "Albone" 35 (35% Hydrogen Peroxide) per month, you'll find a storage tank installation to be economical.

SEND FOR THIS NEW BOOK!

It shows typical continuous bleach layouts designed to fit the requirements of various plants. For a copy just write: E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Department, Wilmington 98, Del.

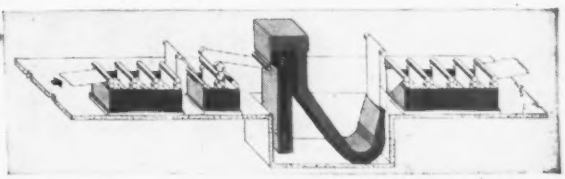
CHOOSE ONE OF THESE 4 DU PONT CONTINUOUS PEROXIDE BLEACHING SYSTEMS

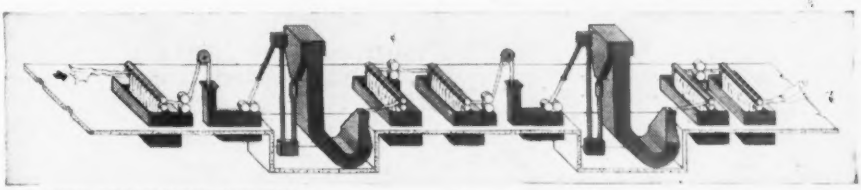
to bleach MORE goods FASTER, at low cost



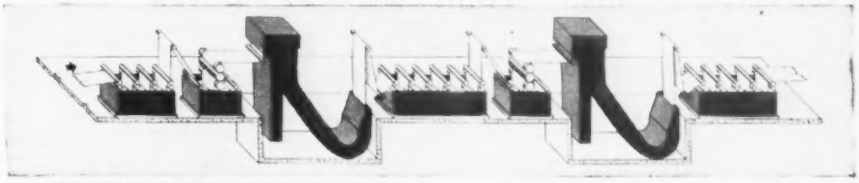
ONE-STAGE ROPE SYSTEM
An ideal arrangement for mills that require weekly production of 200-500 thousand yards of goods averaging 3 yards/pound or lighter.

ONE-STAGE OPEN-WIDTH SYSTEM
For production requirements of 150-300 thousands yards/week of goods that cannot be rope-processed—especially successful with a wide range of heavy fabrics.





TWO-STAGE ROPE SYSTEM For processing a wide variety of fabrics; print cloths, sheetings, shirting, shade cloth, etc.: handles 1¼—1½ million yards/week of 4-yards goods.



TWO-STAGE OPEN-WIDTH SYSTEM For cloth that cannot be handled in rope form. Operating speed generally between 75 and 125 yards/minute. Any degree of bleaching obtained by adjusting peroxide strength.

TO PRODUCE quality bleaching at lower over-all cost, look into these *Du Pont* systems. They're readily adaptable to speedy, uniform processing. In use in many leading mills, Du Pont Continuous Peroxide Bleaching systems are easy to set up, operate and control . . . and they're backed by the years of experience and "know how" of Du Pont Technical Service.

Send for Du Pont's booklet that shows typical continuous bleaching layouts designed to fit the requirements of various plants. For your copy, write:

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DU PONT CONTINUOUS PEROXIDE BLEACHING

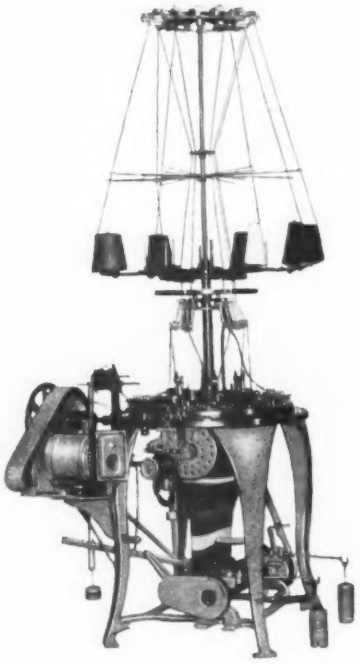
DU PONT

BETTER THINGS FOR BETTER LIVING . . . .THROUGH CHEMISTRY

THE SWEATERS WITH THE "BRUSHED-IN" SALES APPEAL

Leighton Knit

Few machine models will produce many styles of garments. Youngsters starting school or college seniors are fitted with suitable knitted garments produced on Leighton Machines.



LEIGHTON MACHINE COMPANY
ESTABLISHED—1873

LEIGHTON

MANCHESTER NEW HAMPSHIRE
INCORPORATED—1894

tween application of the forces and their effects. In general, the D.P.F. remains constant or decreases slightly as the speed of padding is increased. (See Table V.)

Both the pickup and D.P.F. are affected by the time of immersion. The pickup increases with longer immersion times because the cloth has more time to wet out. (Light-weight fabrics are affected very little since they are wet out almost instantly.) The change in D.P.F. with immersion time seems to depend somewhat upon the dyeing rate of the color used, as shown in Table VI.

When the number of dips and nips is increased, the time of immersion is also increased and the percent pickup increases.

American System

(*Continued from page 131*)

"package" is approximately 30,000 lb. under the two-lot system, while it would be 15,000 under the one-lot system. Future plant units to be added by the company may well follow the plan of the Gastonia mill. Satisfactory blending of lots is done on modified American-system drawing frames. Only wools of similar characteristics are blended, however.

PRECISE DRAWING. The drawing frames are the heart of the American system: they break the extra-long fibers and double the slivers for more even, lofty yarn. The frames have four-roll, fluted-steel drafting assemblies. The pitch of the flutes, modified by Delaine, vary. The coarser flutes receive the greater bulk of the entering stock, and the finer flutes deliver the sliver to the coiler head.

The Delaine frames have direct weighting that is variable for each line of rolls. Spring weighting is also provided. Newly installed knockoffs assure identical yardage of sliver in each can. Modified collars on fluted rolls permit flutes to mesh as close as 0.002 in. Custom-built creels permit two balls of top, or two ends up, rather than single top usually found on the American-system drawing frames. Creels are also synchronized with the back roll to eliminate stretch or tension upon wool top. A slight fluffing action imparted to the sliver allows the flutes to bite the sliver more evenly.

The sliver is conditioned in the breaker drawing frame by the continuous-drip system. A special emulsion, including Syton colloidal silica, softens the wool fiber for later processes, creates inter-fiber drag to aid high-speed

THESE 2 OLATE QUALITIES MEAN MORE EFFICIENT WOOLEN PROCESSING:

A soap solution must penetrate woolen and worsted fibers rapidly and uniformly for a good fulling and scouring job. If it doesn't, there's trouble ahead — dry spots, uneven fulling and non-uniform felting.

Olate solutions — fluid at temperatures far lower than you are ever likely to use — wet out fibers rapidly and evenly. You get excellent lubrication and thorough emulsification of dirt and oil with this pure, neutral, low titer textile soap.

And when Olate's work is done, it gets out *fast*. Olate rinses as efficiently as if fulls and scours.

Olate-processed woolens and worsteds *look* better . . . *feel* better. A month's trial will convince you.

Procter & Gamble

Olate ..*Safe and efficient*

for every textile soap usage

SPEED UP TRICOT KNITTING
with
SCOTCH TEXTILE TAPE
BRAND
NO. 925

Modern knitting mills throughout the country are rapidly discovering how much the new pressure sensitive "SCOTCH" Textile Tapes are helping them speed up and economize their operations—while increasing the quality of their production.

The picture above shows the use of black "SCOTCH" Textile Tape No. 925 on a Tricot knitting machine. A short piece of the tape, ¾" wide, is employed in holding a gauge of thread to be entered into the separation piece of the guide bars. Tape facilitates holding the threads in a hand clamp while the operator places a gauged spreader on them and pulls them through the guides after the entire warp has been hooked on the threader bar. The whole entering operation is then speedily completed by cutting the tape away and tying down the ends.

"SCOTCH" Textile Tape No. 925 is ideal for this application. It is easy to handle; the pressure sensitive adhesive which requires no moistening, holds instantly and securely. Its extra strength allows the operator to place the required tension on the threads as he manipulates them—and its black, contrasting color distinguishes the gauge of the thread in use.

Other "SCOTCH" Textile Tape constructions have similar time and money-saving applications—for identifying roving cans, for holding warp threads, for sealing outer wraps of warps, for holding the last lap of cloth on a roll, and many others. A "SCOTCH" Tape field engineer will call at your request to talk with you about the use of "SCOTCH" Textile Tapes in your mill.

"SCOTCH" is the registered trademark for more than 100 varieties of pressure sensitive tapes.

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Made in U.S.A. by MINNESOTA MINING & MFG. CO. St. Paul 6, Minn.

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In Canada: CANADIAN DUREX ABRASIVES LTD., Brantford, Ontario

drafting, and helps eliminate static electricity.

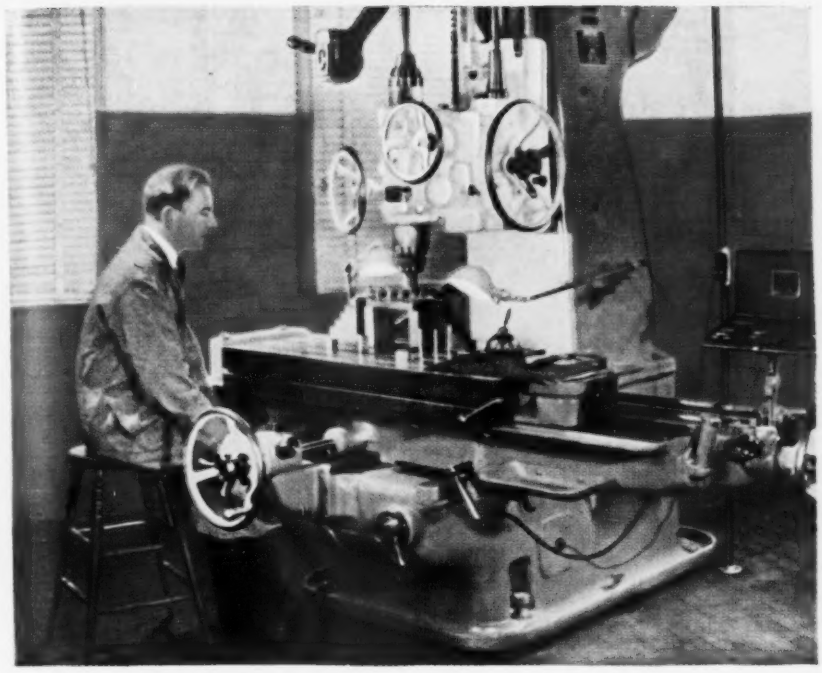
Chapman static neutralizers are also an important part of the drawing frames. They provide high-voltage static eliminators that deliver 14,000 v. over the delivery web of each head. Double-nozzled Inaco atomizers, of a non-gravity type that uses city water pressure installed by Industrialaire Co., maintain drawing and plant humidity at 68% r.h. Humidity controls are combined with heat controls to stabilize humidity and heat within two degrees of the desired settings. From Delaine's experience, it appears that 68% r.h. and 80° F. are ideal conditions for worsted on the American system. The drawing section of the mill has individual controls for both heat and humidity, as do the other departments. A 4-in. concrete roof with Foamglas insulation is said also to aid the maintenance of uniform temperature.

WEIGHT CONTROLS. Delaine's system of two-ends-up worsted on the breaker drawing frame creates an extra doubling that improves the quality. But it is followed up by a detailed system of weight check and control. Since the stop motion assures proper yardage of sliver in drawing cans, an accurate record of each can weight may be made as it is doffed from the breaker and subsequent drawing frames.

The drawing-frame operator weighs each can of sliver on a scale that is graduated in ounces. The scale is marked "zero" at the standard weight, and variations in ounces are shown as "plus 1" or "minus 1," etc. When the operator finds the weight of a full can of sliver, he chalkmarks the can with the appropriate "plus 1," or "minus 1," or "zero." By selective creeling of the second drawing frame, the operator averages all plus or minus variations to zero.

Using 6 ends up and a draft of 6, the mill reduces sliver variation between deliveries at the second drawing frame to less than 5%. Variations in yard-to-yard lengths of sliver average under 10%; and percentage variations as low as 15% have been obtained on the sliver tester.

Drawing-frame rolls are set according to the length of the wool, and the settings generally decrease from back to front and from drawing process to drawing process. Three processes of drawing are usually employed. Incorrect settings of only ⅛-in. can damage the evenness of sliver. Breaker drawing-frame settings are critical, since the back setting is designed to break the longer wool fibers and thus reduce the over-all length variation of



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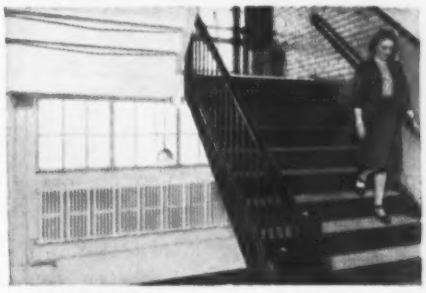

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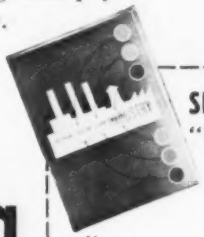

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the sliver. The back settings must be accurate, and considerable care must be given the middle setting which should be somewhat narrower than the back setting.

To process 3½-in. wool, the back roll of the breaker drawing frame is set at 3¾-in. Subsequent settings would be narrower in order to effect fiber control during the processing.

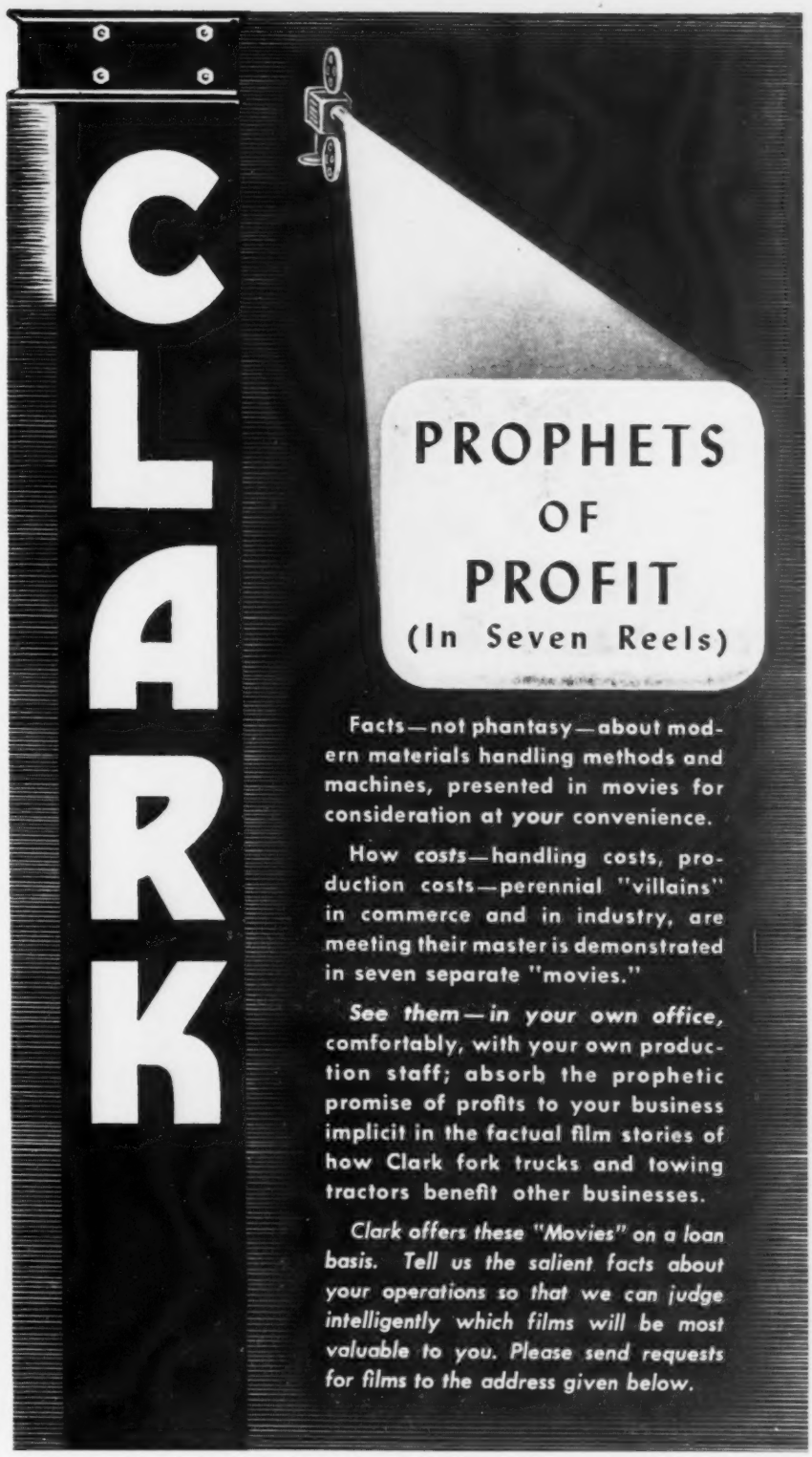
Depending upon the staple of wool and type of yarn desired, two or three processes of drawing may be done upon the stock before it enters the Whitin Superdraft roving frame. The sliver is drafted by two sets of composition rolls, followed by a quarter-turn plate, Casablancas cradle and apron, new selvage-control device, and a front line of composition rolls. The area between the apron and the front roll is the greater drafting area. To obtain better fiber control at this point, Delaine designed and applied a new nylon selvage guide. Now made by Whitin Machine Works, the nylon guide withstands the frictional wear of worsted fiber much longer than other types of selvage guides, according to Delaine officials. Its control of the strand is satisfactory.

Drafts of 30 and over are obtained from the roving frame on worsted stock, and yarn as fine as 9s is possible from the frame without further processing. Roving-frame roll settings depend upon the nature of the stock and, like the drawing, are set to extremely close tolerances.

NYLON ROVING. It is with the Superdraft roving frames that nylon staple begins its processing at the mill. The staple is received as 60 gr. sliver, already combed, drawn, and packed in 15-lb. bags. The bags are creeled directly into the Superdraft, and consequently nylon can be spun in only two processes. However, the Delaine system is flexible. When extra-fine numbers are desired, a bobbin creel added to the regular can creel permits the mill to process through the roving frame twice.

The American-system machinery, designed originally to process synthetic staple of 1½-in. and longer, is said to process 3-in. crimped-staple nylon without sacrificing any of the qualities of fiber control during the high-speed drafting. Nylon yarn sizes up to 60s are made in two processes.

Because of differences in bulk and tensile strength, nylon requires different treatment. Different sets of gearing are used with the fiber, such as special cone gears to reduce twist, and new tension and draft gears. The gearing in the head end of the frame is changed to accommodate the new tensions between the drafting rolls,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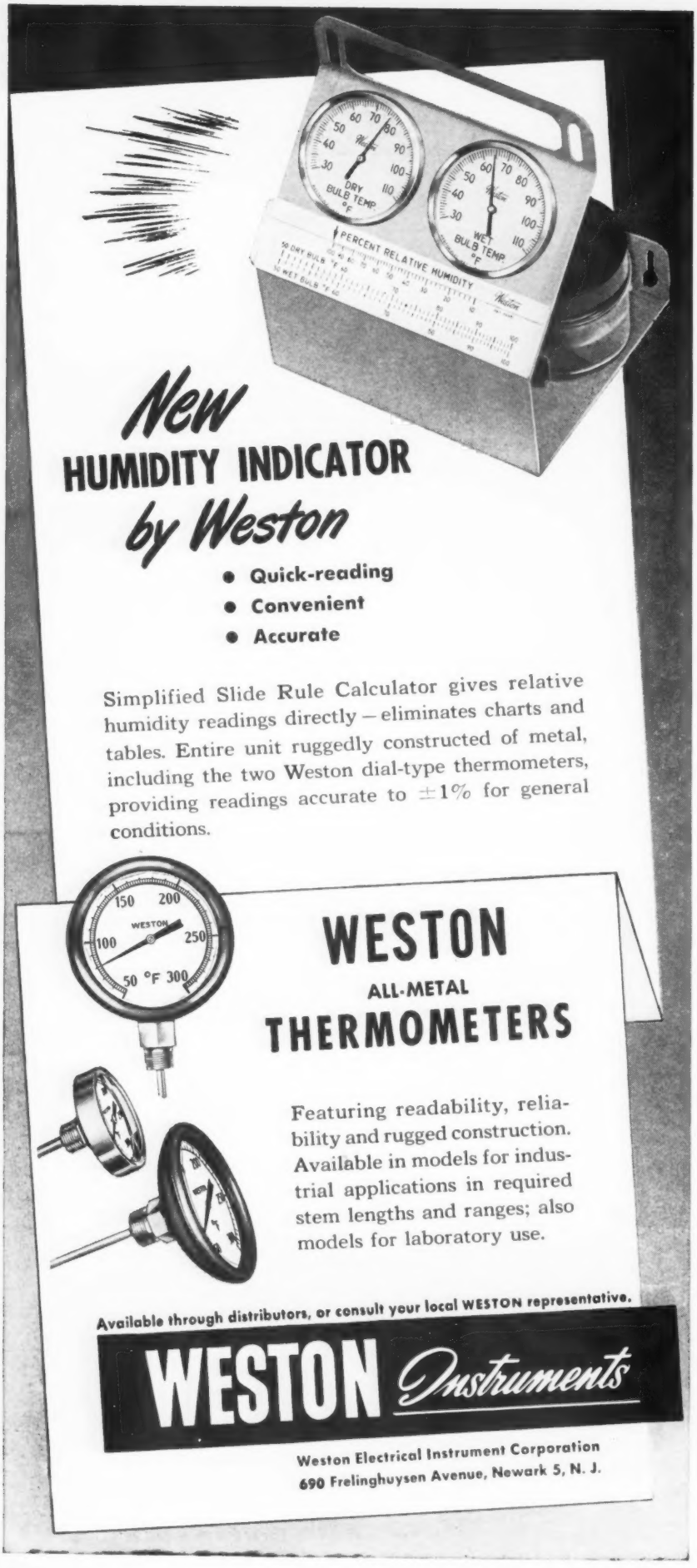
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and nylon's high tensile strength imposes a weighting problem both in roving and spinning. Roll settings and weight distribution on the back and cradle rolls must be set to the staple, or cockling will result. In general, weighting is heavier than that with the worsted yarn; and very low twist multiples facilitate the processing of the fiber. An interesting side light on the processing of nylon on the American system is that once an end is put up, it seldom comes down. An end of high-twisted yarn on the spinning frame can be pulled several feet from the nip of the front roll while the end continues spinning.

Delaine's roving frames are 8 x 4 with 7-in. gage, and Whitin Model F-2 spinning frame with modifications is used. These spinning frames are equipped with oil-wick rings and traversing thread boards of the latest type. Delaine's twisters are Whitin BJ Model which have clutch traps to stop delivery of the roll when an end breaks in the creel. The machines have cone creels, reverse throw-switches, individual motors, one-shot lubrication, and bottle-shaped packages of 8 to 10 oz.

Elastic-Yarn Knitting

(*Continued from page 139*)

constant width of fabric. There are, however, a number of machines available which do this quite successfully. The difficulties are greatly reduced when only widthwise elasticity is desired, such as in stocking tops. In this case, the rubber may be laid-in between the rib and plain wales without being knitted. Fig. 3 shows the loop structure of 1 x 1 rib fabric with inlaid elastic. The best results are obtained when these two methods are combined. In the fabric containing inlaid elastic as well as knitted elastic, not only is two-way stretch obtained but also the inlaid rubber thread tends to stabilize the fabric, preventing curling and making subsequent processing much easier.

Beside the knitted structures outlined in the previous paragraph, most rib machines are fitted also to produce half- and full-cardigan tuck effects with inlaid elastic. This stitch gives a greater width of fabric and improves the handle considerably. Jacquard knitted fabrics and other fancy-loop structures may also be produced containing rubber. Raschel-type warp-knitting machinery may be employed and the resulting warp-knitted fabric makes possible a close knitted structure sometimes considered superior to the filling-knitted materials.

MACHINERY FOR KNITTING ELASTIC. For stocking tops, the superimposed-

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FOR SLASHERS RUNNING ANY YARN

The new Barber-Colman *Electronic* Moisture Content Controller is applicable to slashers of all types which are processing warps of all kinds including cotton, spun rayon, viscose, acetate, aralac, or worsted wool, or any combinations of such yarns. Thus it will provide accurate automatic control of slashing in any mill, regardless of the type of yarn, count or denier, or size of beam. The moisture content of beams prepared for the weave room can be held within extremely close limits, and with reliable uniformity regardless of any changing conditions.

FOR ANY VARIABLE SPEED DRIVE

The control circuits of the new Barber-Colman *Electronic* Moisture Content Controller are such that its governing action can be applied to *any* of the various types of variable speed drive in common use on slashers. The main purpose of the Controller is to adjust, constantly and automatically, the speed of the slasher so as to compensate for variations and produce a beam having a uniform and predetermined moisture content throughout. For detailed recommendations regarding the use of Barber-Colman equipment in your slasher room, we suggest you consult your Barber-Colman representative.

Quality plus . . . Know How

For further information, write for Bulletin F-3156.

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cylinder, automatic hosiery machine is probably the most economic. Raw or covered rubber can successfully be laid in the 1x1 tops of hosiery, and the machine will continue to complete the garment automatically. A feed-wheel attachment is fitted to the machine which supplies the correct length of yarn for knitting and so relieves all or practically all tension. Fig. 4 shows the fiber-gear feed wheels, through which the rubber yarn passes, in mesh with one another. By regulation of the speed of these wheels and the extent of the mesh, the amount of rubber thread fed to the needles is controlled, thus giving a predetermined width to the fabric tube. This regular width is achieved by insuring that each complete revolution of knitting has the same length of elastic yarn.

Similar attachments are fitted to rib-head machines, rib and interlock body machines, and also flat-bar machines. To relieve all drag on the rubber thread due to the friction of the package, whether core, bobbin or spool, the rubber thread is laid in a circular tray. Arrangements are made on some modern machines whereby the tray may be revolved to remove excessive twist which occurs when the rubber thread is being drawn off.

Feed wheels are difficult to fit on flat-bar machines, owing to the reciprocating knitting action. There is a pause as the cam carriage reaches the end of its traverse before returning; and, although not impossible, it would be difficult to secure the desired constant rate of feed. To overcome this difficulty, the rubber thread is laid in a tray as described previously and is passed through special large, antifriction, circular guides to a position above the center of the bed. It is then fed by means of a special feeder which precedes the cam carriage and lays the yarn between the needle beds in such a manner that it occupies a position below the needles as they rise to take the knitting yarn. If this is done accurately on a flat-bar machine, the knitting action is considerably improved since the machine can be started without using the setting-up comb and attaching weights.

SHAPING GARMENTS. Although most garments containing rubber are cut to shape after manufacture of the fabric, a considerable number may be knitted to shape with a minimum of subsequent operations. Width can be varied by simply adjusting the supply of rubber to give a smaller or greater width according to the length of rubber fed at each revolution. On most inlaid knitting machines, provision is made whereby the character of the stitch can be modified to affect the width of the fabric produced. These

modifications include: (1) variation of stitch length and count of yarn used; (2) alteration of loop structure.

A slack stitch and a heavy yarn give a greater width of fabric, and a tight stitch and a fine yarn give a smaller width. More tension on the rubber thread during yarn feeding results in smaller width, while freedom from tension results in greater width.

The differences in width which are due to the alteration of the loop structure are narrower than 1x1, while tuck effects produce a wider tube than plain rib. Almost every pattern designed in any fancy effect gives a slight variation in width.

On most machines, alteration of loop structure can take place automatically. For example, a corselet may be made where royal rib with laid-in elastic used for the ground pattern of the garment and a plain 1x1 rib with inlaid elastic for the waist give the necessary shape.

With the modern fashion trend to the "pinched" waist, which is likely to continue, there should follow greatly increased demand throughout the world for knitted garments containing elastic.

Drop-Wire Maintenance

(*Continued from page 141*)

dropping time; loom shut-down time is nearly eliminated; and the fixer, in starting the remount without need to bother about electrode bars and other drop-wire-motion parts, can more than halve the time required to put a loom in operation after the warp has been mounted.

In cutting the emptied warp from the loom, lease cords are placed in or left out according to the usual practice. If the cords are placed in, it is necessary to make the usual crosses as if on a cut-out without the drops. The sized warp is run up through the drops until the unsized yarn comes near the heddles. The weaving is stopped at this point to await the cut-out.

In placing the lease cords, the usual harness lift is made for the required crosses. However, instead of putting the cords next to the harness, the cross must be worked back through the drop-wires, and the lease cords placed behind the wires. After the required number of cords have been placed, the harness shafts are leveled. The steel strips of the carrier are fastened onto the harness set. The loom drop-wire heads are now unfastened and the electrode bars moved, one by one, with the drops thereon, up and into the carrier brackets. Whatever parts from the loom brackets are unnecessary are left at the loom, and those parts that are required on the carrier

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PROVIDES *IDENTICAL* CYCLING WITH QUICK, EASY CHANGE-OVER

TEMCHRON, the only *completely electronic* time-temperature cycle controller, provides hitherto unattainable accuracy, flexibility, and reliability in the control of size cooking. Identical cycling is assured from batch to batch, for any dial settings, yet simple adjustments permit cycle changes as required by different size formulas. Changes in any part of the cycle — warm-up time, cooking temperature, cooking time, or holding temperature — can be made *by simply resetting calibrated dials.* Lights on the panel indicate when the size mixture is being raised to cooking temperature, when the size is cooking, and when the cooking is completed and the mixture is at the desired holding temperature. Cooking and holding temperatures are independently adjustable within a range of 100° F to 210° F. Length of warm-up time is adjustable from 15 to 90 minutes, and cooking time from 20 to 180 minutes.

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For further information, write for Bulletin F-3054.

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are placed in as needed and must accompany the harness set.

After the carrier bracket covers are secured, the cloth is cut near the breast beam to allow the proper heading. The reed hand-rail is removed and the reed secured to the harness set by tying in proper position. The beam is pulled back so that the unwoven yarn between the reed and the woven heading will be pulled back through reed, heddles, and drops. The woven heading is tucked back behind the reed. Now, the warp yarn is cut down at the beam so as to give a long twister's thrum for the twisting-in set-up.

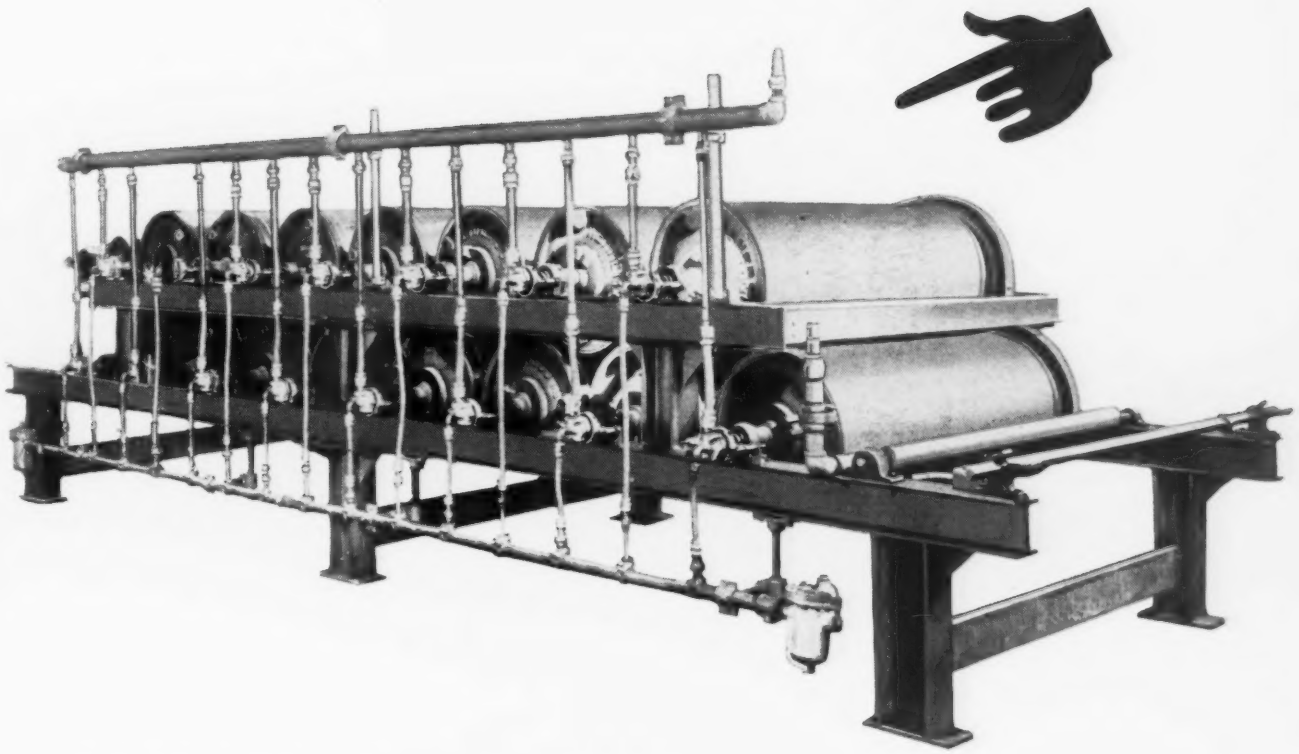
Then the loose yarn is rolled into a cord-like formation and brought up over the drops and secured in the harness by tying the twisted formation through and onto some of the heddles above the drops.

The harness set, complete with the drops, is now removed from the loom and placed in storage or at the twister's bench. The loom can now be cleaned, and a remount placed in with the drops already on the warp and ready for placement into the loom bracket as the usual warp tying-in procedure takes place.

If the warp was properly sized and had no gum extrusions, the drops just removed from the loom are sufficiently clean for further weaving. The harness with the drops is then set up in the twisting-in frame and preparations made in the usual manner to twist the new warp through. A good clean twist must be made. Ragged cuttings will cause yarn sticking and more time will be required to pull the twist through drop wires and heddles. In making the setup, the electrode bars are best moved back onto stands, so that the harness may be manipulated in checking crosses, pulling-in ends, etc. The thrum is unfastened first and allowed to hang free over a rod, which prevents the warp ends from entangling with the drop prongs. The heading is pinned onto the take-up roll. The thrum is prepared for twisting-in.

CLEANING DROPS IN CARRIER. The method used for cleaning the drop-wires depends on the nature of the dirt accumulations and the yarn entry. If the yarn will take a thorough drenching without chafing or dissolving, a pressure gun charged with suitable cleaning solvent can be used. The harness with the drops can be hung above a suitable drainage, and the pressure gun will generally remove unwanted coatings. To soften hardened gums and starches, a very light mist is first sprayed over the heddles and drops. It may be necessary to give two or three light treatments, spaced

werner's dry cans



OPERATE AT TOP SPEED OF 150 YARDS PER MINUTE

Werner's Dry Cans are "must" equipment for the textile industry. Werner's Dry Cans are built for mounting an individual can in conjunction with various machines or in sets containing any number of cans.

Each can consists of stainless steel shell mounted on cast iron heads with steel rings shrunk on to properly seal the can. The can is made for a working pressure of 15 lbs. per sq. in., and is equipped with cut tooth driving gear, Johnson Joint, siphon pipe and vacuum valve. High pressure cans consisting of heavy steel shells welded to steel heads and made to operate at 35 lbs. per sq. in. can also be furnished.

The framework consists of *standard* "H" beams bolted in sections on which pairs of *standard* pillow blocks are bolted to carry each can. This construction makes any required repairs easy and rapid without delay for special parts.

All piping shown on illustration is furnished with the machine, together with the two traps to remove the condensate.

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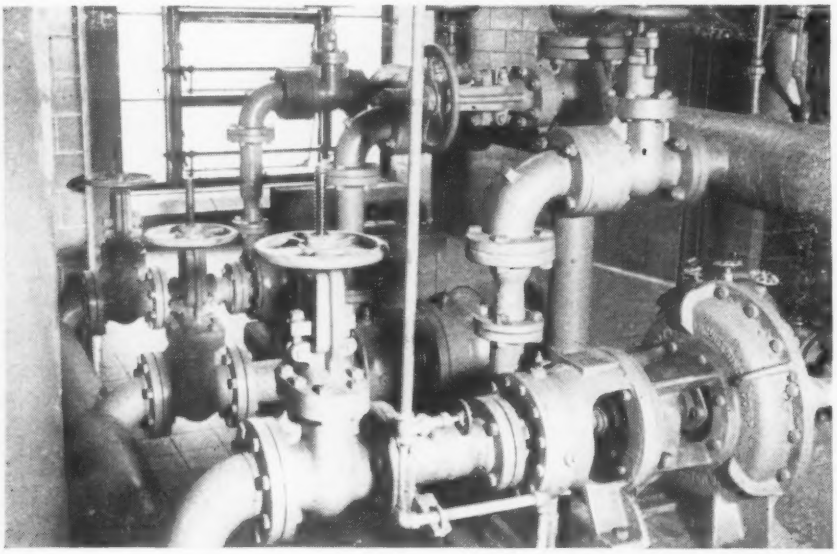

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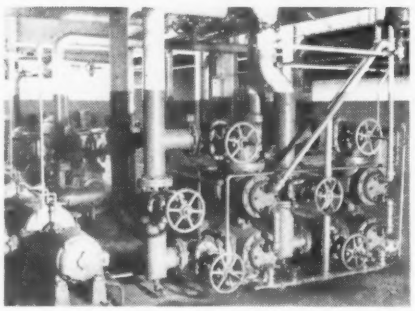
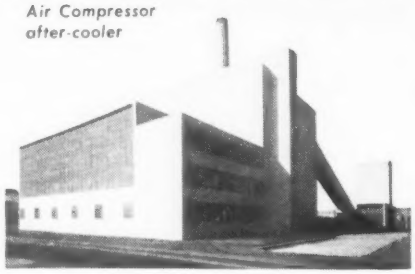


Air Compressor after-cooler



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AIR DEVICES, LUBRICATORS, AIRCRAFT FITTINGS

about 15 min. apart, until the dirt accumulations have softened sufficiently to be cleaned off easily when full pressure is applied.

Some dirt accumulations can be brushed off. Under such conditions, the harness is laid upon a soft padding of felt or pile fabric to prevent undue chafing of yarn. The lint and loose fly is brushed off by brushing outward from the center. The brush is applied approximately ½ in. from the heddle eyes and the entered yarn and moved outward with increasing pressure as the brush approaches the outer edges.

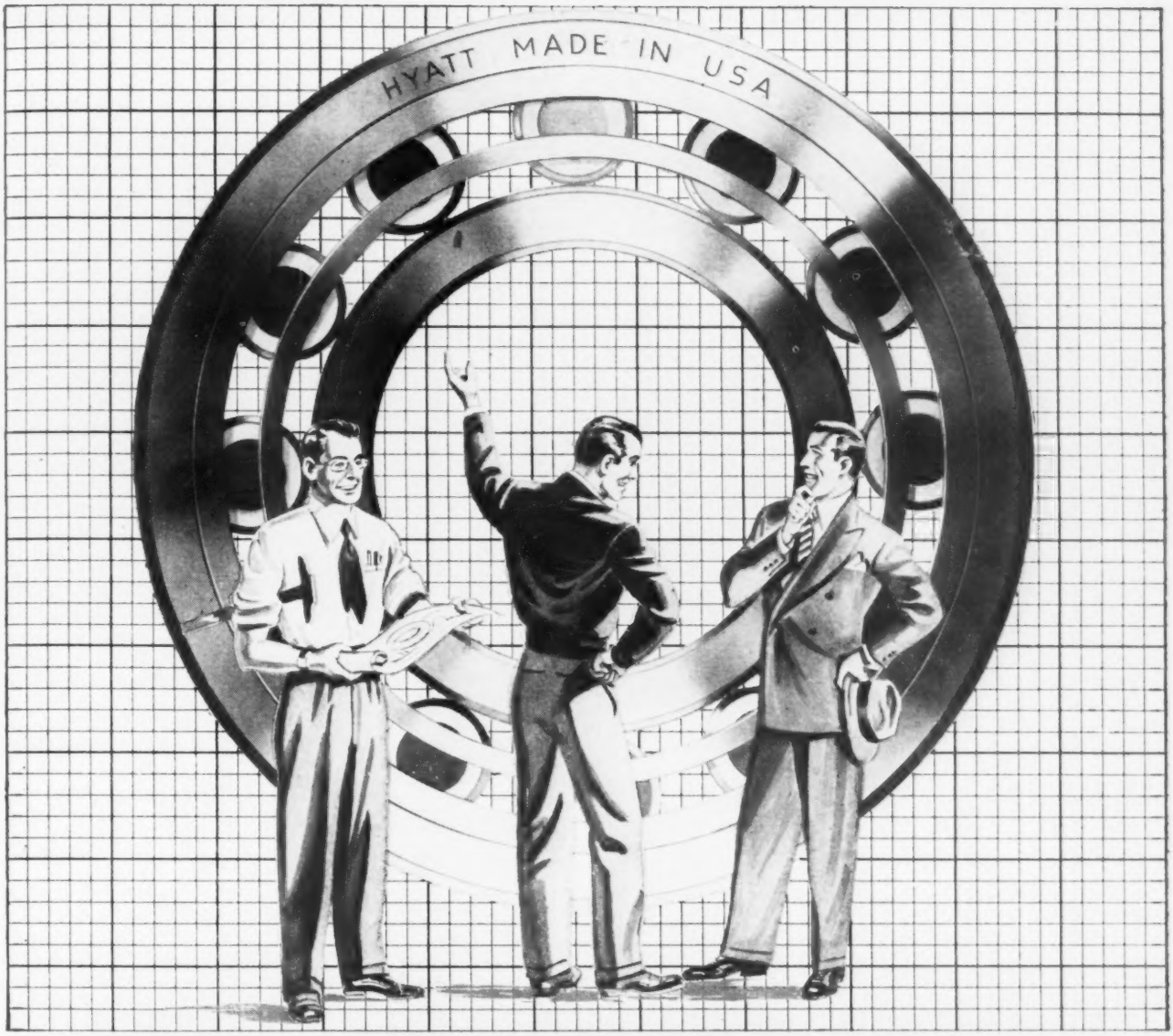
On the drop-wire side during cleaning, the drops are brushed below the yarn so that lint gatherings come out through the prongs where most dirt clogs the wires. A fairly good brushing will remove this lint without damaging the yarn. If necessary to clean the upper portion of the drop-wires, the yarn is brought downward and the drops brushed outward.

After cleaning by brushing, the harness set should be shaken to remove lumps of dirt that may have sifted between shafts during brushing operations.

CLEANING LOOSE DROP - WIRES. With some sizing solutions, the drop-wires are so gummed up that cleaning is necessary which can be accomplished satisfactorily only by handling the drops in a loose state. When the drops are removed from the warp, they should be allowed to remain on the electrode bars for transporting to the twisting-in department. If care is taken, the drops can be suitably cleaned while remaining on the bars. This method often prevents damaged drop-wires, and if a record is kept of quality numbers, the correct number of drops will be had when making a drop on a new remount, and need of going back for additional drop-wires can be avoided.

If sizing gum can be cleaned off by dipping the drop-wires into suitable solvent and by brushing, their compactness on the electrode bar allows a more rapid cleaning, keeps the drops from entanglement, and avoids the need of resorting.

Another feasible method of cleaning drops while on the bars entails the use of a metal box-like container in which to hang the bars with the wires thereon while steam pressure forces cleaning solvent through the wires. After the treatment, the steam is shut off and hot air dries both the drops and the bars. With some forms of electrode bars, cleaning under steam pressure is not permissable as the electrode insulation would be destroyed. Certain acids cannot be used for the same reason. Petroleum solvents are fairly safe; but, in all cases, great care



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Hyatts keep machinery in better adjustment—reduce maintenance—increase production and improve quality of yarn and fabric—need lubrication only a few times yearly—prevent spattering of lubricant on cloth—make the operatives' work easier—cut power costs as much as 15%.

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LOOMS • PREPARATORY EQUIPMENT • FINISHING MACHINERY

Write for the facts: Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

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must be taken to avoid damaging the electrode bars. A shorted bar can be very troublesome at the loom, as false loom stops from this cause may be difficult to detect. Once such trouble is established, however, the bar must be replaced with a good bar.

CLEANING BY DIPPING. Another method of cleaning loose drop-wires involves their removal from the electrode bars and placement in a dipping apparatus. This should be some form of basket so that the cleaning solution will drain out rapidly. The container with the drops is moved up and down in the cleaning solvent, and gum and other caked sizings gradually loosen and are washed free. After such dippings, the wires may be rapidly dried by dipping in scalding water and scattering over an area provided with suitable drainage. The troublesome feature of this method, of course, lies in gathering and resorting the drops. Good drops should be sorted with all the prongs in one direction and boxed in suitable cardboard holders for future use. Damaged drops should, of course, be discarded.

CLEANING WITH SAWDUST. Still another method of cleaning loose drops is a dry-cleaning method using sawdust. The sawdust acts as an abrasive in cleaning size, dye, gum, and other foreign deposits from the surface, and gives to the wire a shiny brightness which resembles newness. Steel wires which are slightly corroded will have a pitted surface but will otherwise be clean. Brass or copper wires will usually be cleaned bright and smooth. The sawdust treatment also rounds sharp edges. This removes the knife-edge which rides the warp yarn and is sometimes a source of yarn breaks. Cleaning is indispensable on drops that are gummed up, in order to retain the efficiency of the drop-wire motion. The sawdust method deserves serious consideration.

The sawdust-cleaning system involves a revolving drum mounted on a firm rack and base. The illustration shows how this is designed. In place of the baffle-type, the offset drum is an alternate to use if desired. In the latter, the center shaft serves as a baffle as the mixture of drop-wires and sawdust constantly moves back and forth as the drum is turned. Where an angle iron serves as a baffle, it is placed inside the drum by cutting a slot at one edge and pushing the iron through on an angle. The iron is welded fast as the slot is also welded shut. When the drum is revolved, the drop-wires are given a thorough treatment. The sawdust can usually be reused for several batches.

If desired, the motive power can be

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REDUCE MACHINE MAINTENANCE SAVE YOUR FLOORS

ISOMODE* vibration-absorbing PADS

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Why put up any longer with the expense, with the wear and tear caused by vibration and impact? You can now avoid them in *your* plant merely by placing cushioning Isomode Pads between machines and floor. It's effective, quick, surprisingly *economical!*

And once you have Isomode Pads installed, the savings mount up. You not only reduce machine maintenance, but also guard against undue fatigue and impaired efficiency of workers. You save the cost of special, expensive foundations for impact machinery.

You may wonder how, with a pad only 5/16-inch thick, it can cushion the pounding of heavy machines. Yet with the extra resiliency obtained through the "cross-cleated" construction, and when properly loaded 50 pounds to the square inch, MB Pads display remarkable absorption of vibration and shock. As much as 78% of the vibration transmitted to the floor by one leg of a loom, for example, was stopped by Isomode Pads. Their proved performance in *thousands of installations* attest to the fact that they will do their job for years—resisting oil, water, aging.

Isomode Pads are supplied in various standard sizes which can be cut right on the job to conform to the machine.

*Trade Mark Reg. U. S. Pat. Off.

SEND FOR THIS DETAILED BULLETIN
It tells you about more money-saving benefits—shows how simple it is to install the pads properly.

THE MB MANUFACTURING COMPANY, INC.
1084 State Street, New Haven 11, Conn.

a ½-hp. motor geared down to approximately 50 rpm. for the drum. The employee's time can be used during the interval in boxing other cleaned drops or attending to other required details.

The most important requirements in cleaning drop-wires by this dry-cleaning system are:

1. Use only dry sawdust; when it is dirty, discard it and replace with a new batch.
2. Don't fill drum too full, as the movement induced by the baffle must help in the cleaning; one-third full is sufficient to do a good cleaning job.
3. Don't run too fast, as the mixture must have time to move around as the drum revolves.
4. Sort the wires immediately after cleaning and box them for future use.

Aluminum Parts

(*Continued from page 147*)

free from splintering, cracking, and other deterioration. The advantages over steel rolls are non-rusting qualities and light weight.

In finishing hosiery, stocking forms are generally made of aluminum sheet or of aluminum castings provided with interior passages to permit heating by steam or electric-resistance elements. Preboarding forms for finishing nylon stockings are made of aluminum sheet, usually anodized to provide a hard, smooth finish. Aluminum is preferred here because of its resistance to steam, its stiffness, and its lightness. Perforated aluminum tubing is found in steam chambers for processing of warp-knit fabrics.

PLANT EQUIPMENT. The ease of fabrication and lightness of aluminum and its corrosion-resisting and non-staining properties have created a large field of application for aluminum sheet, shapes, and castings in heating, ventilating, exhausting, and air-conditioning equipment. Typical applications are ventilating ducts, exhaust hoods, baffles, and fans. Because of its resistance to attack by hydrogen sulphide, aluminum installations of this type give satisfactory service in viscose-rayon plants.

For such equipment, aluminum sheet is advantageous because it lends itself readily to forming and bending for all standard sheet-metal joints and is easily welded by all commercial methods. Field erection is made easier because of lighter weights, and there is less strain on supporting structures. Because aluminum cannot rust, the need for painting, galvanizing, or other protective finishes is eliminated.

Emissivity, or radiating power, of

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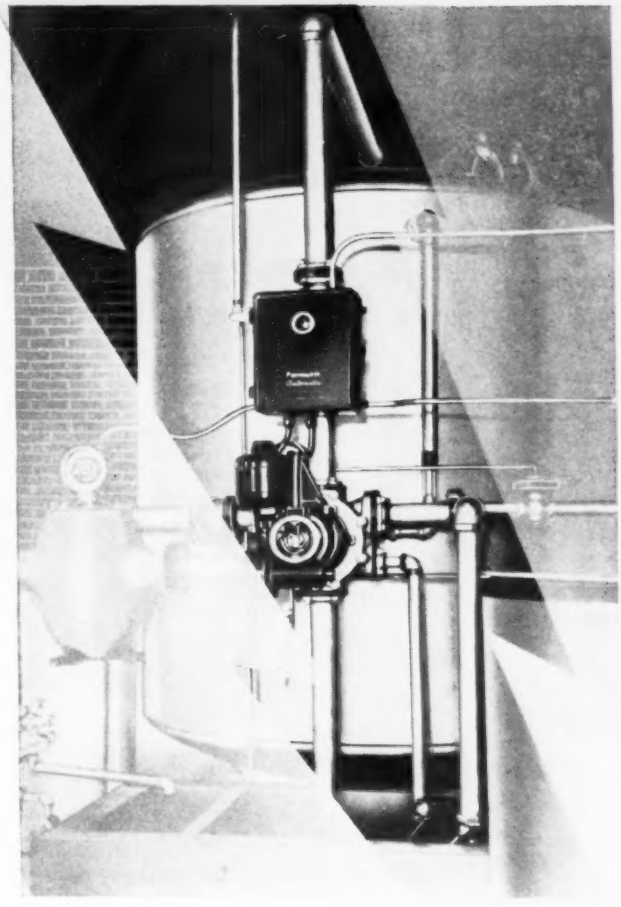
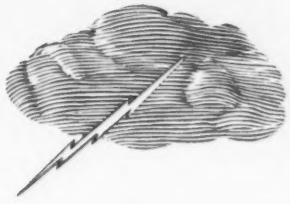


Permutit Zeolite Water Softeners



LOWER COSTS

Permutit quality controlled process water cuts production costs – actually saves money – by safeguarding fabric quality. Permutit water conditioning equipment guards against spotty off-color dye lots, or chemical reactions that spoil the finish of fabrics.

GIVE ZERO WATER CONSTANTLY

Permutit's electric-automatic controls insure a continuous supply of completely softened water.

SAVE LABOR

that was wasted. Gone are the hours and hours required with *manual* regeneration. Only Permutit electrically controlled, automatic water softeners have the exclusive multiport valve control which makes possible automatic regeneration.

For complete details on Permutit's modern water conditioning equipment, write The Permutit Company, Dept. TW-10, 330 West 42nd Street, New York 18, N. Y., or The Permutit Company of Canada, Ltd., Montreal.

FOR 35 YEARS

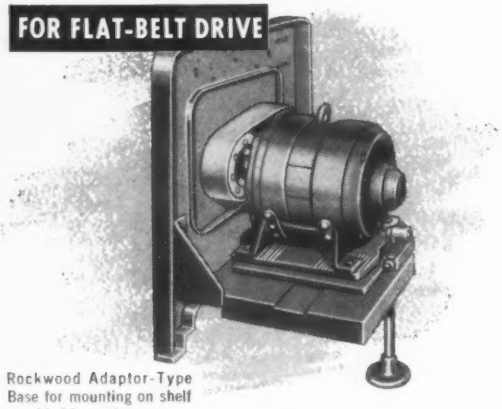
Permutit

WATER CONDITIONING HEADQUARTERS

Cut OPERATING COSTS

with ROCKWOOD PIVOTED MOTOR BASES!

FOR FLAT-BELT DRIVE

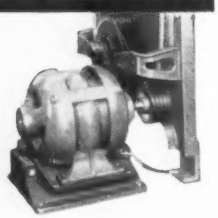


Rockwood Adaptor-Type Base for mounting on shelf provided by customer.

AUTOMATICALLY MAINTAINS CORRECT BELT-TENSION *all the time*

● Just the right amount of pull, regardless of belt-stretch or load change . . . that's what Rockwood Pivoted Motor Bases assure for your machines! They eliminate belt-slippage, keep machine speed constant every second! They double belt-life, cut power costs 5% to 10%, reduce motor-bearing wear to a minimum. Practically no attention required . . . no slow-downs or time-outs for adjustment. That means greater production, more uniform quality, and lower costs in your mill! Rockwood Bases are quickly and easily installed. Write for full details or call your Rockwood distributor.

FOR V-BELT DRIVE



Rockwood Floor-Type Base for V-Belt Drive.

ROCKWOOD MANUFACTURING CO., INC. • INDIANAPOLIS

Only ROCKWOOD Has all these essential motor base features!

- ✓ 1. Heavy, rigid cast-iron arms that will not bend and flex under belt-pull.
- ✓ 2. Two-piece, sliding arm construction for proper motor location, using less room, eliminating dangerous projections.
- ✓ 3. Ample clamping area and bolts to prevent motor fastening from vibrating loose.
- ✓ 4. Large pivot bearings to assure long life, under any type load.
- ✓ 5. Oil-less type pivot bearings, assuring lifetime lubrication.
- ✓ 6. Heavy, cast-iron base giving minimum deflection when mounted on uneven surface.
- ✓ 7. Mounting area ample, yet small enough to fit an average motor foundation without extensive changes.
- ✓ 8. Adjustment for belt alignment, or take-up for permanent belt-stretch, safely and easily made while drive is operating.
- ✓ 9. Wide range of arm swing around pivot allows for considerable permanent belt-stretch before adjustment is required.
- ✓ 10. Base can be supplied for mounting at any angle from horizontal to vertical.
- ✓ 11. *Always* easy to adjust base to give just the right amount of pull.
- ✓ 12. Never necessary to remove motor from base to remove bearing housings for needed repairs.

ROCKWOOD PIVOTED MOTOR DRIVE

immediate delivery!

Rockwood's expanded manufacturing facilities now assure delivery immediately, or according to any delivery schedule you determine!

aluminum sheet is very low as compared to either galvanized or black sheet iron. This means that heat losses are reduced in aluminum ducts. In structural applications in textile mills, aluminum is increasingly employed for doors, windows, skylights, and lighting equipment because of its resistance to chemical attack, its nonstaining qualities, and its ease of installation.

Manufacturers of materials-handling equipment are attracted to aluminum because of its lightness and ease of fabrication; other important characteristics here are freedom from rust and from staining. Hand or roving trucks, warp and filling trucks, doffing trucks, portable bins, containers or carts, and similar equipment in rayon plants and other textile mills are now made of aluminum in a variety of sizes and types. These trucks are easy to handle and keep clean because of their lightness, sturdiness, and freedom from rust. Similar benefits are obtained from aluminum bobbin racks and transporters, pin boards, cone boards, cheese boards, and many other items of portable equipment.

Damage to Roofs

(*Continued from page 135*)

years ago that the only force of a straight wind was the pushing force. Engineers thought that the only lifting action applied to a roof was caused by wind pushing upward on the eaves; or if wind entered the building, it pushed upward on the roof.

This thinking led to two mistakes in roof construction. (1) If wind resistance was considered at all, a sloping roof was used. The thought was that a straight wind striking the slope would push the roof downward. (2) If wind resistance was not considered important, a flat roof was used. No roof anchors were installed, or only short anchors to resist the pushing of wind under the eaves were used.

Wind-tunnel tests have shown that the pushing force of wind is not the only destructive force. Suction (where pressure is lowered by the flow of wind) is also an important factor.

When wind strikes a building, it flows around and over it. If the wind is deflected by an eave, the area just above the eave is "protected" from the wind; the wind passes over that area. In the case of a sloped roof, the wind strikes one side and is deflected. The other side is protected; it's out of the flow of wind.

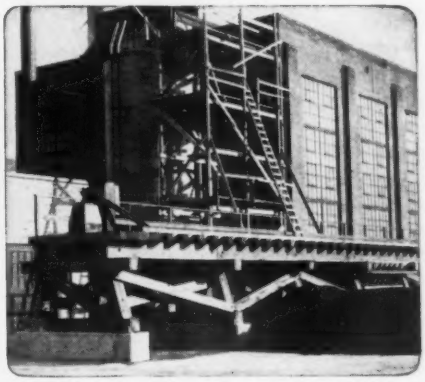
In passing over these areas, static air (or air that creates normal air pressure) is sucked up into the stream of air. This lowers the downward air pressure on the roof surface in that

6 common conditions

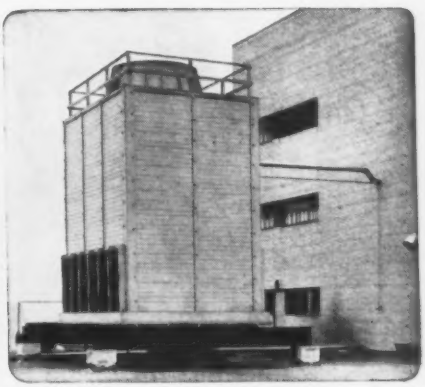
where* WOLMANIZED PRESSURE TREATED LUMBER

protects against DECAY and TERMITES

1. Wherever moisture is condensed because of concrete or masonry.



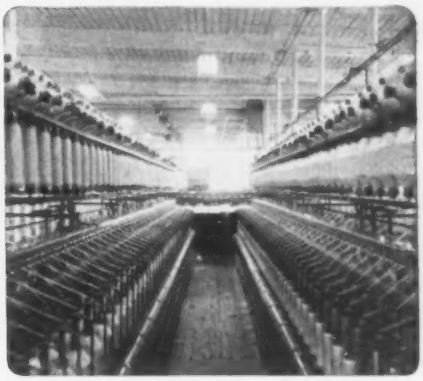
2. Ground moisture and rain held in joints, etc., of outdoor structures.



3. Cooling towers and similar structures exposed to direct water contact.

4. Where steam and vapor from industrial processes are prevalent.

5. Wood used in or near the ground open to attack by termites.



6. Wood exposed to moisture in artificially humidified buildings.

LASTS FOR DECADES

Imagine the saving in maintenance which you could realize by using lumber which is protected against wood-decay and termites. "Wolmanized" pressure-treated lumber offers just such protection—lasts 3 to 5 times as long as ordinary wood.

Actual service records prove it. Best of all, the extra cost of this pressure-treated lumber is less than the cost of labor alone in replacing prematurely failing, untreated wood.

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economical! high-speed!

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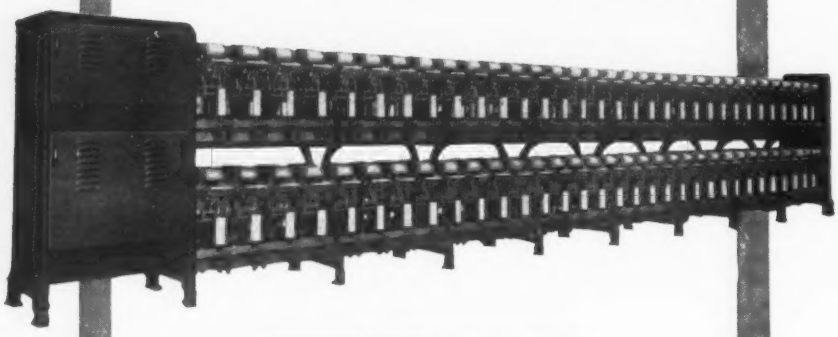

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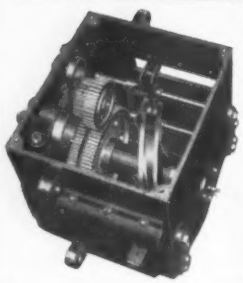

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SMOOTH, STEADY ACTION—Traverse is actuated by a unique cam unit, supplying motion directly and evenly to the traverse bars to eliminate loss motion! Built-in secondary motion prevents built-up ends of yarn on packages!

YARN ECONOMY & PROTECTION—

Mechanically positive stop motion individually stops each spindle in event of yarn breaks! Adjustments are unnecessary after installation!

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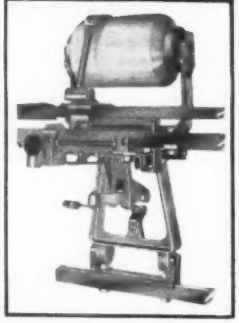

128 TO 200 INDIVIDUALLY CONTROLLED SPINDLES— (Marquette roller bearing spindles available with each machine)

NEW AND IMPROVED SPINDLE SWING UNIT with floating brake and finger-tip release.

PIVOTING TAKE-UP YOKE is preloaded with a spring to assure even movement in the forward position!

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● Cuts Operating Costs ● Boosts Production & Quality ● Reduces Maintenance

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U.S. TEXTILE MACHINE CO.

600 Gilligan St.—Scranton 8, Pa., U.S.A.

area. The static pressure inside the building, which normally exerts no pressure against the roof, then tends to lift the roof. If windows on the windward side break and admit wind, the pressure inside the building increases.

ROOF PROTECTION. The answer to roof protection is to install enough anchorage to withstand the upward pressure. The anchors should tie the roof to the walls and columns and the columns to the mill foundation.

Designing adequate roof anchorage is, of course, a job for a capable engineer. Steps to be taken in such designing are:

1. Determine the lifting force on various parts of the roof.
2. Determine the lifting force at points where anchorage is to be applied.
3. Select adequate anchors.
4. Select adequate fasteners—lag screw, bolt, expansion shield, etc.
5. Choose the proper size of anchor bar or rod.
6. Design adequate anchorage for roofs at end walls.
7. Allow for reversal of stress in truss members.
8. Check pilasters and brick walls for crosswise strength.

Damage to roof covering (which accounts for 20% of the total damage to mill buildings by wind) occurs in three ways: (1) wind suction, (2) inside wind pressure, and (3) prying action of wind.

In a 70-mi.-per-hr. wind (a wind that averages 70 mi. per hr. over a period of 5 min.), the suction over a main roof is about 15 lb. per sq. ft. Over a monitor or saw-tooth roof, the suction is about 30 lb. per sq. ft. This suction may lift the roof covering right off the decking.

If 10% of the wall on the windward side (including doors and windows) is opened to the wind, an additional lifting force of 15 lb. per sq. ft. is applied to the roof. This makes a pressure of 30 lb. per sq. ft. on main roofs and 45 lb. on monitors and saw-teeth.

If wind can get under a roof covering at a badly cemented edge, it exerts a prying force on the roof covering. Large areas of roofing may be lifted.

COVER PROTECTION. The best protection against wind damage to roof covering is to keep the covering in good condition. Some defects in a covering will cause leaks, but others may not. It is not wise to depend entirely on leaks as a warning. The roof should be inspected occasionally, and

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Chemists who have worked to improve rayon production have learned that they can depend upon the high quality of Hooker Caustic Soda. Because of its continued dependability, Hooker Caustic Soda has retained its popularity in the Rayon Industry over the years.

These same high standards are upheld in all Hooker Chemicals. The ever increasing use of Hooker Rayon Chemicals testifies to the confidence users have learned they can place in Hooker products.

Here are five of the Hooker Chemicals that are helping in the manufacture of viscose rayon. The consistent high purity of these Hooker Chemicals lightens your work and enables you to turn out uniformly high quality products.

PRODUCT	*DESCRIPTION*	*USE*
Caustic Soda	Specially refined for Rayon Industry. Impurities carefully controlled. In solutions of 50% and 73% concentration.	Mercerizing pulp to form alkali cellulose having *reproduceable solution viscosity.*
Liquid Chlorine	Light orange liquid or greenish yellow gas of uniform high quality.	Treating process water. Preparation of hypochlorite bleaching solutions.
Lauryl Pyridinium Chloride	A mottled tan semi-solid. Solubility in water is 60 gms per 100 gms of water.	As a cationic detergent to keep spinerettes* clean. Wetting and cleaning agent for textile fibers. As a leveling agent and color modifier in dyeing.
Sodium Sulfide	A light yellow colored solid relatively free from iron and other heavy metal salts.	In desulfurizing rayon yarn. Manufacture of dyes.
Sodium Sulfhydrate	A light yellow colored solid of high purity and negligible metal content.	For preparation of desulfurizing bath. Manufacture of dyes.

Data sheets and samples of Hooker Chemicals will be sent when requested on your letterhead. If you do not have a copy of our General Products List we suggest you write us for one today. It contains information on Hooker Chemicals and processes many of which have a wide application in the textile field.

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4 Forty-seventh St. NIAGARA FALLS, NEW YORK

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8385

One of a series *of messages to help you increase your understanding of business paper advertising, and its effect on your job.*

Why you have a big stake in your company's advertising

NO MATTER WHAT your present job may be, your chances of getting ahead depend on your company's ability to make a fair profit.

As a production man, you have a pretty good idea of how profits are earned. You know that without modern, high-speed production tools, there wouldn't *be* any profits — or any jobs, for that matter. Your cost-per-unit would be so high that you couldn't compete with other manufacturers in your market.

The same thing applies to the *manufacture of a sale!* Without mechanization, the cost of "manufacturing" would be prohibitive.

That's where advertising comes into the picture. Because advertising is simply the assembly-line technique in selling. Just consider the five basic operations involved —

1. **Seeking out prospects**
2. **Arousing their interest**
3. **Creating a preference for your product**
4. **Making a specific proposal**
5. **Closing the order**

Advertising performs the first three of these jobs. And it performs them *far more economically* than any other means, leaving your salesmen free to concentrate on the two that they alone can do, and do best. In that way, advertising increases your company's chance to earn a profit. And that is why you have a big stake in its *efficient use.*

Where can your company's advertising work at its highest efficiency? Where but in those business papers which are concentrated among your company's best prospects — *and no one else!*

TEXTILE WORLD

is a member of The Associated Business Papers, who have published an interesting folder entitled, "10 ways to measure advertising effectiveness." We'll be glad to send you a copy. And if you'd like reprints of this advertisement (or the entire series) to pass along to others in your organization, just say the word.

defects that might give way in a windstorm should be corrected.

Some of the more common defects and how they may be remedied are:

1. Rotted decking.

If the roof leaks or the decking stays moist from another cause, it will rot. Rotted decking, of course, gives no support against upward pressure from inside the building. It also offers no resistance to nails or cement being lifted by suction.

Rotted decking should be replaced and the covering repaired.

2. Weathered surface.

Asphalt or tar-and-gravel roofs are damaged by weather. Cracks may appear in an asphalt roof. If the cracks are deep, the old coat should not be re-covered, for the same cracks will soon develop in the new coat. Cracking may be reduced by mopping the roof with oil.

BARE SPOTS. Bare spots develop in tar-and-gravel roofs where the gravel is not well bedded in the asphalt. If the spots are not repaired, the cover may crack.

3. Cracked felt.

Expansion and contraction of the roof deck may cause felt to buckle, blister, crack, or open at the seams. This defect increases with the age of the roofing and should be watched. If the damage is slight, it may be repaired by patching or remopping. If there are many cracks, new roofing must be put on.

4. Blisters.

Air trapped under the roof covering causes blisters. Perforated base felts are being used now to avoid this defect; but in old roofs, blisters may have to be repaired. Large blisters can be cut out and the roof patched, but a great number of small ones cannot be repaired; a new roof must be put on.

5. Poor fastening.

Eaves, gutters, ridges, roof decks (such as exhaust-air ducts), etc. are good spots for the prying action of wind. An eave must stand an upward pressure of 45 lb. in a 70-mi. wind. So must other flat areas where wind is sharply deflected.

If edging strips are used and felts are nailed down, nails should not be over 3 in. apart. Only metal (never wooden) edging strips should be used.

Insulation placed around a deck should be adequately cemented. Mortar, dampness, dirt, etc. prevent a good bond. Care should be taken to remove them before the cement is applied. If two layers of insulation are used, cement the bottom layer to the decking and the top layer to the bottom layer.

Good News for Mills with Scouring Problems!

Any mill not using sulphuric acid in bleaching and carbonizing, or allowing less than one minute immersion time in the scouring bowl can now

EFFICIENTLY SCOUR RAW WOOL • SKEINS AND PIECE GOODS • AT 80° F.—by using

VITA-LASTIC
REG. U. S. PAT. OFF.

STEAM SAVING DETERGENT

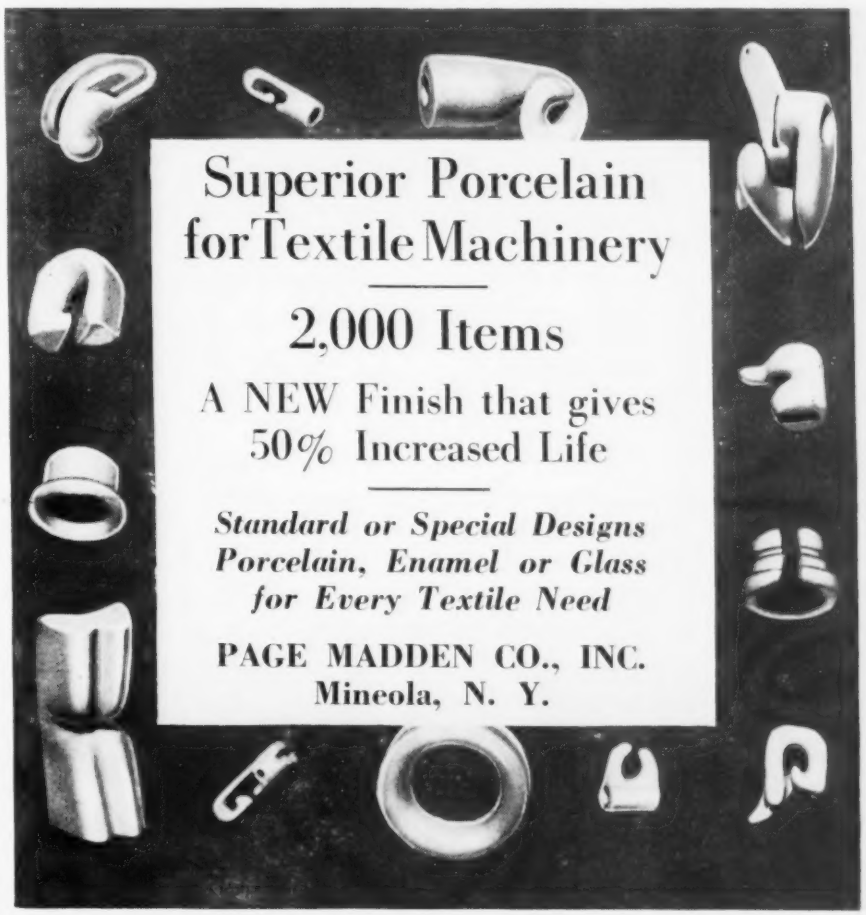
This new detergent, besides doing a thorough cleaning job, saves in steam alone more than the cost of the scouring material.

Vita-Lastic effects an average saving of half an hour per day heating-up time and a corresponding gain of approximately 6 per cent in production.

One of the country's leading carpet mills has been using Vita-Lastic for a considerable period with gratifying results.

Let us tell you about it and demonstrate the effectiveness of Vita-Lastic to you. Free demonstration samples will be gladly furnished.

SOLVENT PRODUCTS, INC.
CORNWALL LANDING **NEW YORK**


Superior Porcelain for Textile Machinery
2,000 Items
A NEW Finish that gives 50% Increased Life
Standard or Special Designs Porcelain, Enamel or Glass for Every Textile Need
PAGE MADDEN CO., INC.
Mineola, N. Y.

(*Advertisement*)

Textile Wet Processing Equipment and Supplies Show In New York 1949

Exhibits Will Be Directed To Those Engaged In The Dyeing, Finishing, Bleaching & Printing Of Textiles

A TEXTILE WET PROCESSING EQUIPMENT & SUPPLIES EXPOSITION, is scheduled for New York in the 71st Regiment Armory, 34th St. & Park Ave., March 21 to 25, next year.

This exposition will highlight the equipment and supplies of interest to those engaged in the dyeing, finishing, bleaching and printing of textiles of every description. The show will be held under the auspices of Expositions for Trades, Inc., with executive offices at 36 West 47th St., New York City.

In announcing the Textile Wet Processing show, Mr. Tarshis pointed out that a survey discloses it fills a definite niche in the industry and will prove to be highly informative to the large trade audience vitally concerned with the new equipment and supplies that enter into this forward-moving branch of the textile industry. He emphasized that New York is the ideal place for such an exposition, since it is within close proximity to the areas wherein are located the plants engaged in textile processing work, such as New Jersey, Long Island, Pennsylvania and the New England States.

Exhibits in this exposition will be restricted to equipment and supplies that enter into the wet processing industry, divorced from looms, carding machines and the like.

"In other words," said Mr. Tarshis, "it will be a highly specialized show, all embracing for those manufacturing equipment used for the dyeing, finishing, bleaching and printing of textiles and the spotlight turned on the dyestuff and chemical products in addition to wet processing equipment, since they play such an important part in the industry."

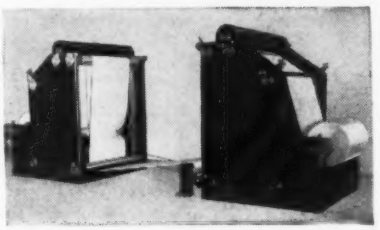
Sterling
Ring Travelers
DEPENDABLE
On whom can you depend?
Our engineers are experienced mill men. Daily they send to us information regarding the different conditions encountered, so that we can improve our Travelers.
Let them help with your work.
H. B. CABANISS, Box 188, Monroe, N. C.
M. H. CRANFORD, Box 204, Chester, S. C.
D. R. IVESTER, Box 882, Clarkesville, Ga.
STERLING RING TRAVELER CO.
FALL RIVER, MASS.

TEXTILE Equipment NEWS (Continued)

(*Continued from page 154*)

immediately when engaged. The table is said to be easily loaded from either front or back, and quickly threaded. A model for any cloth width is available; adjustable cradle-guides center any width. A quick-acting reverse mechanism, operated by foot treadle, is designed to provide instantaneous control, leaving operator's hands free. The upper cloth roller floats to allow for various thicknesses, bumps, wrinkles, seams, etc. The cloth roll unwinds in cradle with free-turning removable rolls.

Web Tension Held Constant During Processing



A new machine which provides constant tension and constant velocity on a bonded-fiber web or on vinyl films has been developed by Black Industries, 1400 E. 222nd St., Cleveland, Ohio. The machine is designed to maintain constant tension over a wide range—from a few ounces to hundreds of pounds—to meet the conditions imposed by the material under process and regardless of the tension in the web of material as received. Once set, tension is under control regardless of speed, and it remains constant during stops in the processing operation.

Machines have been built to operate at speeds as low as 60 and as high as 3,200 ft. per min. They are available as winding units, unwinding units, or both, as the processing operation may require.

Centralized System Cuts Lubricating Costs

A centralized lubricating system applicable to almost any textile machine has been developed by Lincoln Engineering Co., 5701 Natural Bridge Ave., St. Louis 20, Mo. Advantages claimed are: economies of lubricant, and reduction of maintenance parts replacement, accident hazards, and friction fires.

An injector or dispensing valve is connected to each bearing on the machine by copper tubing. The injectors incorporate an external adjustment screw which permits delivery of a predetermined quantity of lubricant to individual bearings each time the system is cycled. Injectors are supplied with lubricant through a single supply line from an electric-motor-operated pump with 30-lb. lubricant capacity. The pump is operated by a

MORE MILLS AGREE THIS EDMOS KNITTER

with 1½ Feeds per Diameter Inch

OFFERS MORE ECONOMY OF OPERATION

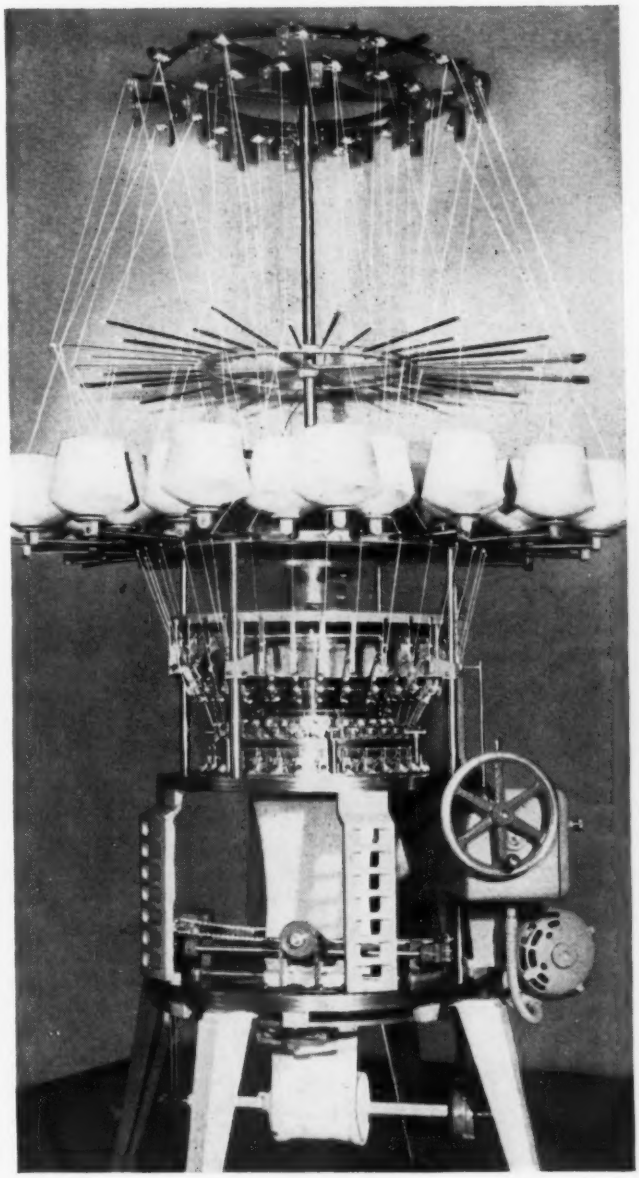
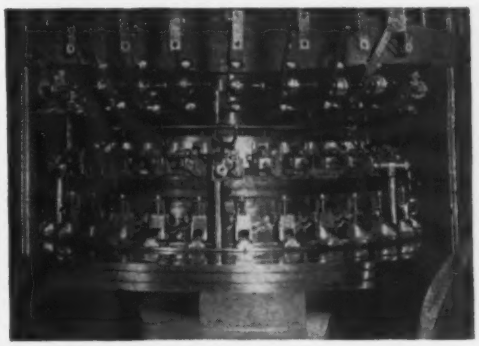


Illustration: Model Shown Is 20" - 30 Feeds

Today, with the high cost of labor and materials, you can appreciate the need of more economical plant operation. Speaking of knitting economy, you get it in this outstanding Edmos Type EEM Super Multi Feed Plain Rib Body machine. This economy-designed knitter, featuring 1½ feeds to the diameter inch, gives you economy of production. It gives you up to four times the output of older make machines. You get economy of space, too, because it takes up no extra room. Superior for knitting Swiss rib fabrics, it also serves ideally for making "T" shirt and polo shirt fabrics. A demonstration at the Edmos plant will convince you this high speed machine means immediate improvement and savings for you.



Type EEM comes as follows:

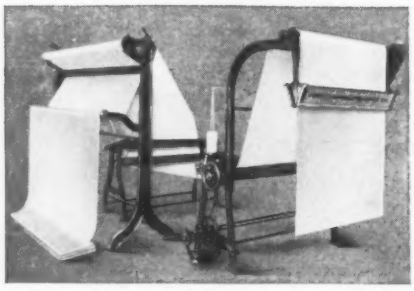
12"—18 feeds	18"—27 feeds
13"—19 feeds	19"—28 feeds
14"—21 feeds	20"—30 feeds
15"—22 feeds	21"—31 feeds
16"—24 feeds	22"—33 feeds
17"—25 feeds	23"—34 feeds
24"—36 feeds	

All machines complete with motor drive and electric stop motions.

Type EEM features:

Simplified camming system both on cylinder and dial
Gear driven dial
Oversized dial shaft
Adjustable motor mount
Simplicity—Accessibility
Interchangeability

EDMOS PRODUCTS CORP., 13 Christopher Ave., Bklyn 12, N. Y.



Doubling and Tacking Machine

Takes the goods in the open width and doubles the two selvages together with the face inside as they pass over the Doubling Frame. As the goods pass under the Tacking Machine head, the edges are stitched with a loose elastic chain-stitch about ¾" long, leaving the goods in tubular form.

Ask us more about it!

Curtis & Marble
MACHINE COMPANY
WORCESTER, MASSACHUSETTS.

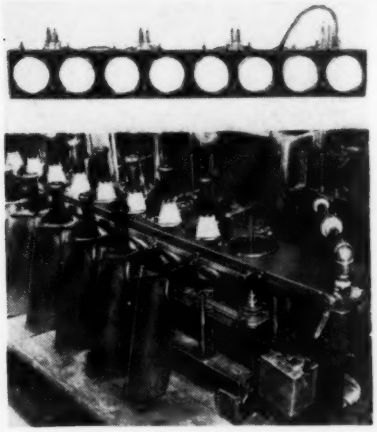
ROBISON
RAYON YARNS

We continue to offer a flexible service combining superior workmanship in the

- dyeing
- twisting
- finishing
- converting

of filament, spun rayon, and nylon yarns.

ROBISON PROCESSING COMPANY
Boston, Massachusetts • New York Sales: 450 Seventh Avenue



***Automatic lubrication** of 82 rings every 15 min. is accomplished by a central lubrication system.*

magnetic starter switch. Operator presses a push button on switch and the pump operates instantly, building up lubricant pressure in the supply line to the injectors which in turn deliver a measured amount of grease or oil to the bearings. After the system has cycled, the pump automatically shuts off, and pressure vents back into lubricant container allowing injectors to reload. The company reports a substantial saving in operators' time and through increased production. A machine does not have to be shut down for lubrication, and greater machine efficiency due to a minimum "friction factor" results from correct lubrication.

Except in cases where oil bath or circulating systems are required for heat removal, centralized lubrication systems may be installed with equal efficiency on old or new equipment of almost any type, the manufacturer states.

The centralized systems are available with manually-operated, electric, or air-motor-operated pumps to meet specific requirements. Full automatic pumps for use with original 400-lb. containers and a control panel with automatic timer and signal alarm are recommended for extensive installations. However, systems are available with 2-lb. or 10-lb. capacity manually operated pumps for smaller installations. Systems are designed for simplicity and neatness of installation—all accessories required being supplied by the manufacturer.

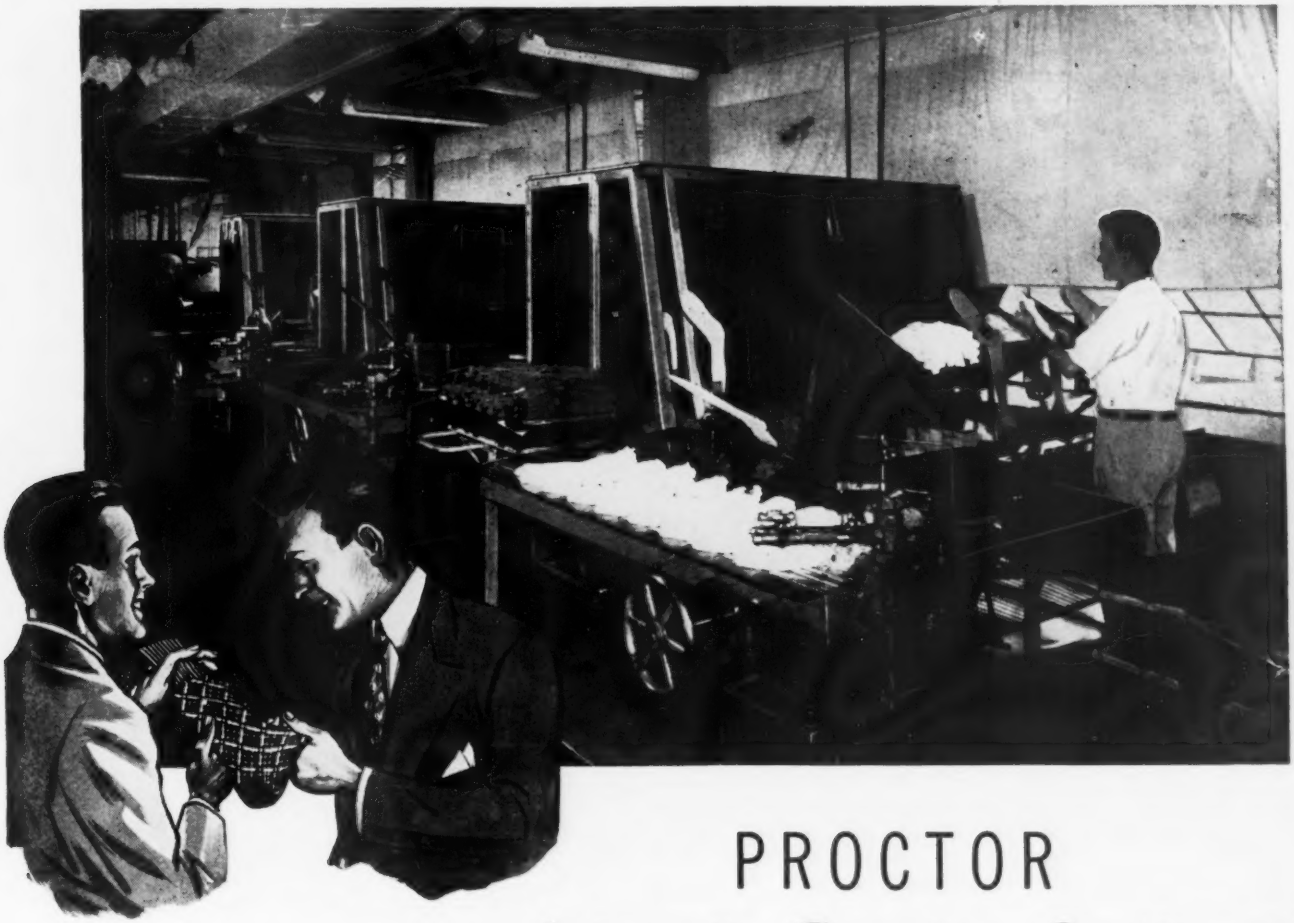
Fluid Under Pressure Cleans Steam Lines

Damage to steam lines resulting from scale, sludge, or rust is said to be prevented by use of the "Pressure-Jet System," a development of Pressure-Jet Systems, Inc., Milwaukee, Wis.

The Pressure-Jet System of correct-

Quality finishing and

MAXIMUM PRODUCTION OF MEN'S SOCKS



PROCTOR

Automatic Boarding Equipment

FOR MEN'S HOSIERY

With the increasing emphasis on the finished quality of men's socks there is a decided trend to the adoption of Proctor automatic boarding machines. This modern equipment is so designed that full emphasis is given to the two most important considerations in any mill—top quality finishing and maximum production.

First of all the Proctor system is automatic—relieving the operator of all responsibility other than placing the socks on the boards. Stripping, piling and counting are done mechanically—so that the boarder can give his undivided attention to the boarding operation. This not only increases production—but assures a careful job of placing the socks on the boards. The speed of the dryer and temperature may be varied to compensate for the wide variety of weights of socks that pass through the men's hosiery mill.

More and more manufacturers of men's and children's socks are finding for themselves—based on actual operation data—that Proctor automatic boarding machines are a profit making investment. Using your own mill as a basis of figuring—Proctor & Schwartz can show you that it would be decidedly to your advantage to completely equip your boarding room with these modern machines. Write for details today.

PROCTOR & SCHWARTZ INC.

645 TABOR ROAD · PHILADELPHIA 20 · PA·

Series 3 of Typical "H-W" CONDITIONER Applications

PEPPERELL *Manufacturing Co.* REPORTS
advantages of the *"H-W" CONDITIONER

The satisfactory results obtained by use of the "H-W" CONDITIONER in the Biddeford, Maine, mill of Pepperell Manufacturing Company is evidenced by the following report from Mr. Lyman H. Smith, General Manager:

"We find in blends of rayon and rayon and wool that we can satisfactorily set the twist on 18's and 20's yarn with 26 T.P.I. in 45 minutes and, on lower twist numbers such as a 24's yarn with 18 T.P.I., a half an hour is sufficient.

"We have practically no trouble with bleeding of tints, a trouble that is always present when tinted yarn is steamed.

"The machine has satisfactorily set the twist on crepe type yarns.

"We have had no maintenance problems with the machine since its installation."

View of "H-W" CONDITIONER installed in the mill of Pepperell Manufacturing Co., Biddeford, Maine.

Full particulars in Bulletin UC-1 . . . yours for the asking.

*Trade-Mark Reg.

The Industrial Dryer Corporation
STAMFORD, CONN.

ANDREW K. HENRY

★

RAYON TOPMAKER
VISCOSE
ACETATE
RAYON NOILS

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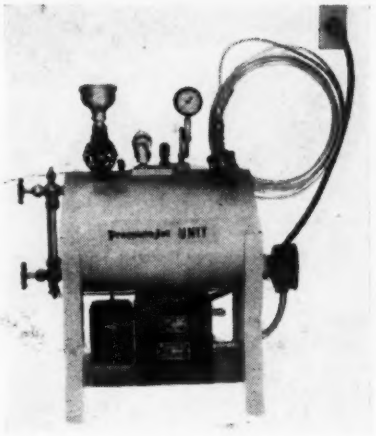
158 SUMMER STREET
BOSTON, 10, MASS.



Corrosives are removed from steam line by a high-temperature fluid injected under pressure by this pressure unit.

ive treatment is comprised of two factors: The Pressure-Jet unit and Pressure-Jet fluid. This fluid, electrically heated in the unit, is atomized into the steam main beyond the boiler at high temperature and adjusted to the pressure of the steam system. Because its temperature is higher than that of the steam into which it is atomized, the fluid entrains with the steam which carries it to all parts of the system. Every radiator, trap, return line, and all steam operated equipment is treated. Existing scale, oil sludge, rust, and other products of corrosion are dissolved into minute particles and held in suspension, flowing off with the condensate. The fluid is alkaline but noncaustic and is claimed will not injure ferrous or nonferrous metals, packings, or gaskets. It neutralizes the acidity caused by oxygen and carbon dioxide, preventing the formation of carbonic acid.

The unit is easily installed, is completely automatic, and operates either on 110- or 220-v. a.c. or d.c.

Extractor Designed for Cake and Yarn Soaking

A new extractor specially designed for use in cake and skein soaking has been developed by Fletcher Works, Inc., Philadelphia, Pa. It is an underdriven, open-top model built on the "super-self-balancing" principle of the 30-in. Fletcher "Junior" extractor.

In addition to the usual permanent basket, supplied in this case without top ring, this extractor is equipped with several removable baskets. The baskets are made entirely of stainless steel and are removed by lifting. Although securely locked in place while running, the baskets can be inserted and removed with ease and dispatch.

Supplementing the extractor, Fletcher is offering a complete soaking

Memo on Modernization

Memo on Modernization

NEW HUNTER EQUIPMENT

a Must in Another Modernization Program

Modernization in the plants of this large worsted manufacturer is a continuous process. That's why, for years, they have continually specified the newest and best equipment that money can buy. That's why they have continually specified Hunter for their preparation and wet finishing lines.

Their latest installations include a Hunter Uniflow Tenter Dryer, a Straight Tenter Frame and a Carbonizing line which consists of acid tank, pneumatic squeeze rolls and continuous carbonizer.

As with all new finishing equipment purchases, Hunter was chosen on the basis of performance in past installations, plus the performance of the new equipment which Hunter guaranteed before installation was made. The Hunter guarantee means that there is no surer way to buy preparation and wet finishing equipment — there is no surer way to know if modernization will pay you dividends. For further details write today.

Hunter Straight Frame Tenter

Continuous Range Cloth Carbonizing

Hunter Uniflow Tenter Dryer

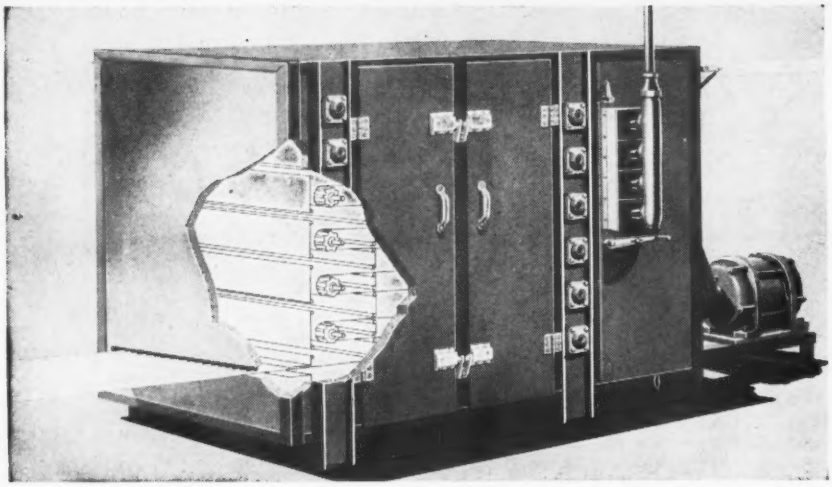
BUILT BY HUNTER . . . IT'S DEPENDABLE

JAMES HUNTER MACHINE CO. NORTH ADAMS, MASS.

Hunter

JAMES HUNTER MACHINE CO.

NORTH ADAMS, MASS. FOUNDED 1847



HIE Automatic

New High-Speed WARP DRIER

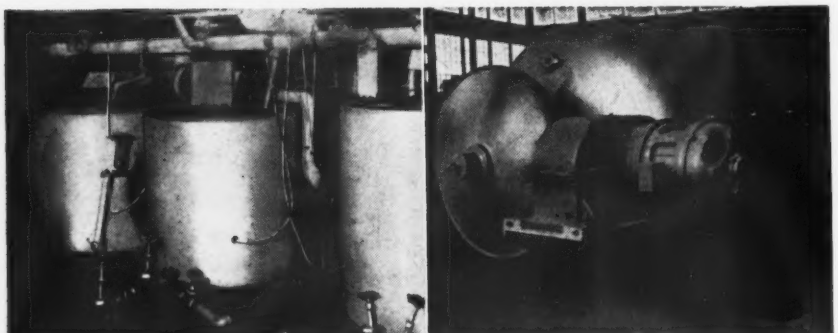
Improved features include warp suspension between fluted rolls while drying, reducing hot surface contact. Warp so dried is rounder, smoother, and stronger; and feeds into looms with less shedding.

Heat control is fully automatic at any speed, assuring uniform drying of yarn without tendering.

This faster, more compact drier, requires no ventilating hood. Uses no steam from your boilers. Designed for oil or gas firing.

Write for details today.

INDUSTRIAL HEAT ENGINEERING COMPANY
Textile Drying, Curing and Singeing Equipment
121 CLEVELAND STREET • GREENVILLE, SOUTH CAROLINA



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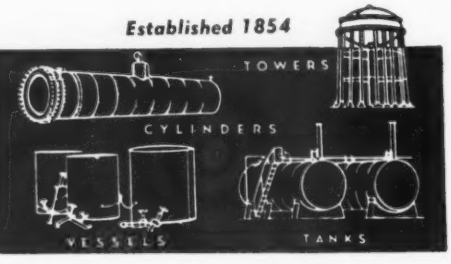
KETTLES • KIERS
VATS • VESSELS

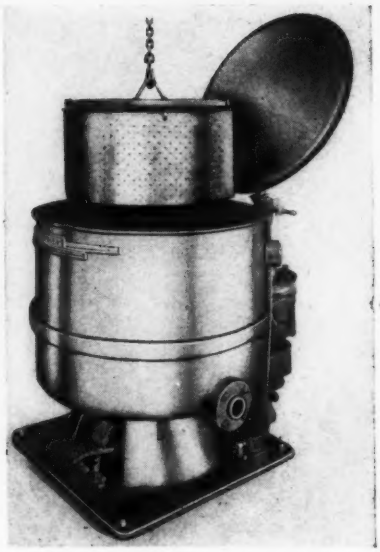
Cole engineers have the know-how, born of long experience, to give you the finest in vessels for textile liquids—the finest in metal alloys, the finest in design and workmanship. Pressure vessels, starch kettles, kiers, digesters. If you want the best, come to Cole.

Write for a free copy of the Cole catalog — "TANK TALK"

R.D. COLE
MANUFACTURING CO.
NEWNAN, GA.

Established 1854



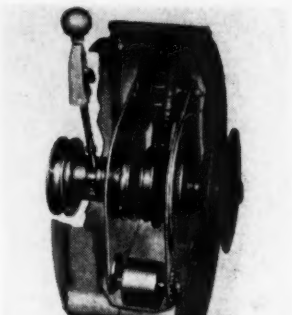


Removable stainless-steel baskets that speed and reduce cake and skein handling are a feature of this new extractor.

installation consisting of steam-jacketed mixing tank and soaking vats, recovery tank, loading and unloading table, and hoist with monorail.

The advantages of this arrangement are said to include (1) appreciable saving in labor, (2) less yarn handling with corresponding improvement in quality of yarn, and (3) less floor space required. Furthermore, the initial cost is said to be considerably lower than previous systems having comparable capacity.

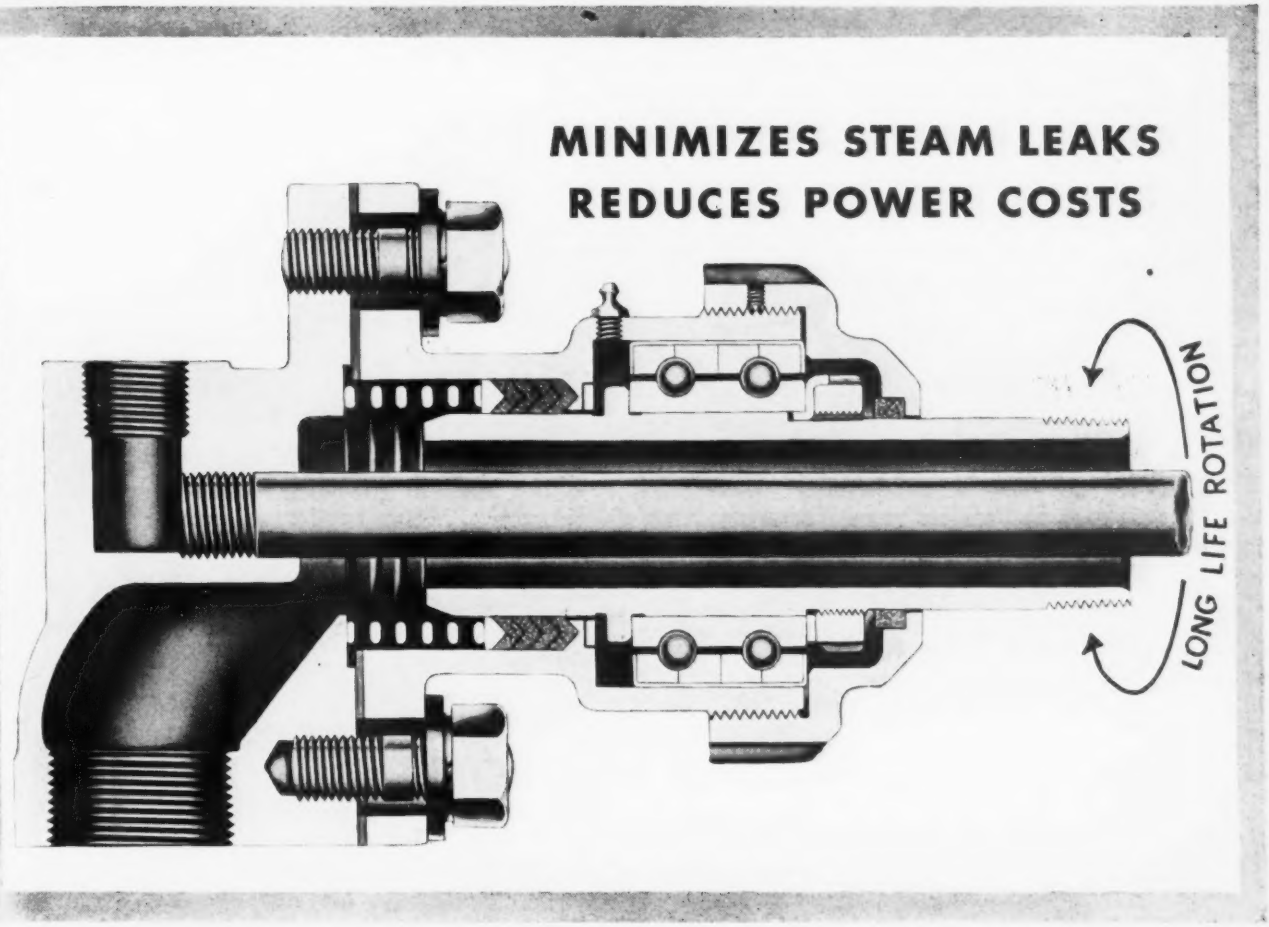
Control Varies Speeds From 0 to 800 RPM.



A new principle of planetary motion permits infinite speed ratios from 0 to 800 rpm.

A new 5 hp. model of a speed control said to have unlimited ratios has been announced by Speed Selector Inc., 118 Noble Court, Cleveland 13, Ohio.

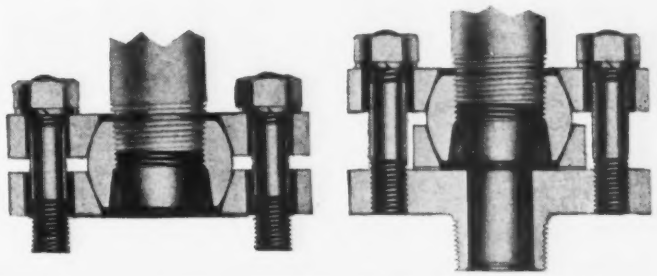
The new variable-speed drive utilizes an entirely new principle of planetary motion applied to speed changers in combination with standard



The BARCO Revolving Joint

Designed especially for the textile industry, the Barco Revolving Joint is used on all types of rotating applications, including slashers, calenders, sanforizers, and dry cans. Barco minimizes steam leaks and its lower turning torque reduces power costs. Textile weaving and finishing plants or bleacheries have found Barco unusually successful in cutting maintenance worries. For more particulars about this and other Barco Flexible Joints for the textile industry, write Barco Manufacturing Company, Not Inc., 1834 Winnemac Avenue, Chicago 40, Illinois.

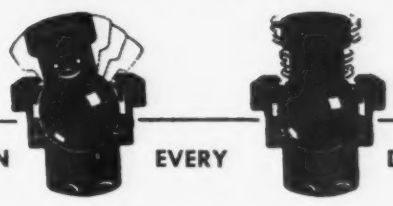
BARCO BALL FLANGE— Cross-section view of Barco Ball Flange for use on threaded and flanged rolls and for correcting roll misalignment. Sleeve can rotate concentric even though threads on roll are tapped off center.



BARCO FLEXIBLE JOINTS

Not just a swivel joint ...but a combination of a swivel and ball joint with rotary motion and responsive movement through every angle.

FREE ENTERPRISE—THE CORNERSTONE OF AMERICAN PROSPERITY



In Canada: The Holden Co., Ltd., Montreal, Canada.

"MOVE IN EVERY DIRECTION"

DRUMMOND

SOAP AND FLAKES LEAVE

FABRICS CLEAN . . . SOFTER . . . COLORFUL!

You couldn't ask for an easier, quicker-sudsing soap or flakes than Drummond to give your fabrics the "New Look"!

Both Drummond Soap and Flakes have the advantage of high body and low alkali content . . . an advantage that leaves fabrics clean with a downier feel, brighter color, and whiter white. Try a sample and note the difference.

Write today for your FREE, ample-size sample of Drummond Soap—just ask for Flakes or Solid.

TEXTILE OILS AND SPECIALTIES

Standard Soap Co. of Camden

205 South 2nd St.
CAMDEN, N. J.

James A. Greer, Southern Manager
P. O. Box 306, Greenville, S. C.

WILTEX Inc.

Aluminum Cloth Rolls

Rustproof Lightweight

NO SLOT NEEDED WITH THE AMAZING WILGRIP NON-SLIP FINISH

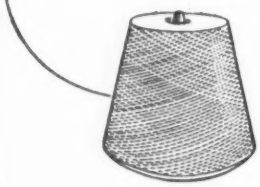
Now In Standard Use in Many Mills

1340 E. 222nd St.
Euclid 17, Ohio

Fallspun
QUALITY YARNS

FALLS YARN MILLS
Woonsocket, R. I.

SYMBOL OF QUALITY
COAST-TO-COAST

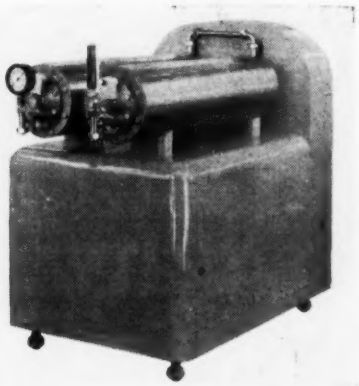


V-belts and variable-pitch sheaves, making possible infinite ratio, split-second control of speeds from 0 to 800 rpm., and changes into reverse where needed.

The wide range of speeds provided increases machine versatility and efficiency. Its unusual design eliminates gear shifts, clutches, multi-speed motors, step pulleys, and other complicated devices.

The speed selector has cast-iron sheaves on hardened and ground shafts and guide pins with sealed prelubricated ball bearings mounted in cast-aluminum housings. Optional V-belt or flexible coupling input and output make the control easily adaptable for mounting in any position on new or existing equipment.

Backfill Producer Saves up to 10% Starch



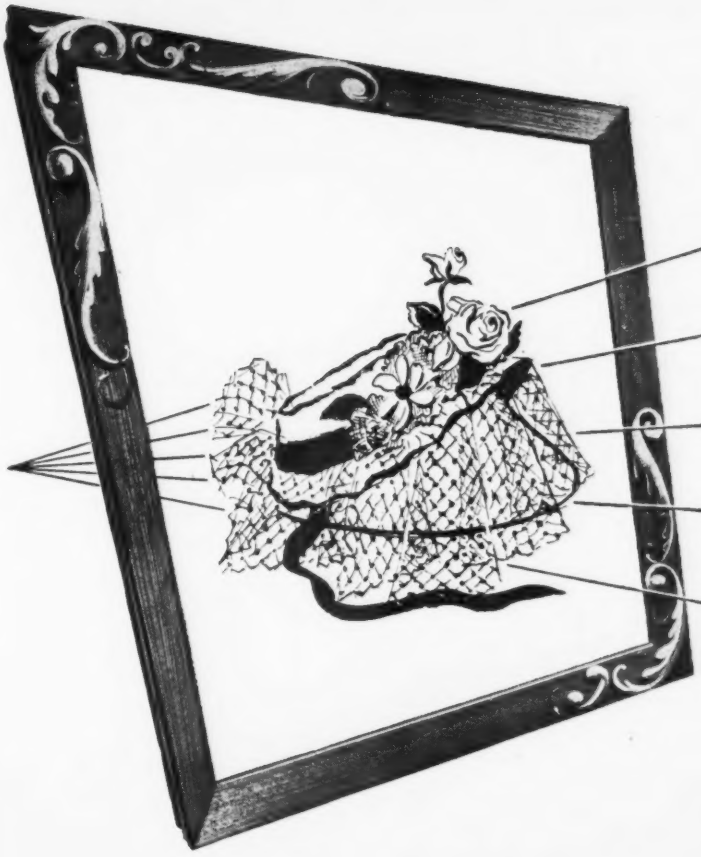
Smooth, homogenous backfill at reduced labor cost is reported produced cleanly by this new machine.

A new Votator apparatus for the production of backfill, employing two 6-in. cylinders, has been developed by the Votator Div., The Girdler Corp., Louisville, Ky.

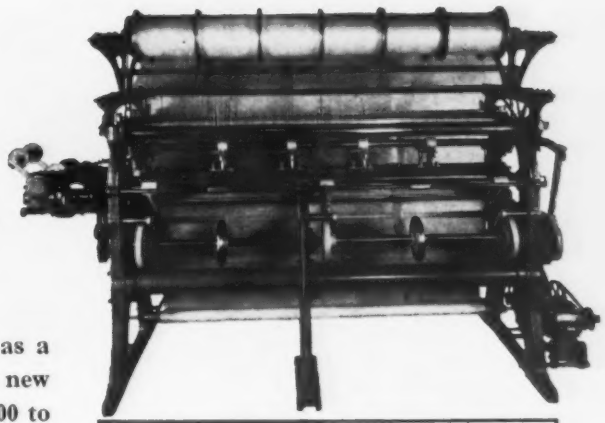
The preparation of backfill in the apparatus is said to offer many marked advantages, among them:

1. It turns out a uniformly smooth, homogenous product that reduces cloth loss due to imperfections.
2. Savings from 5 to 10% starch have been shown.
3. In some plants, labor costs have been lowered as much as 33⅓%.
4. There is a substantial saving in floor space.
5. Because the ingredients are processed in a completely inclosed system, the backfill room is always kept clean.

The capacity of the Votator backfill apparatus varies with the formulation used. But even when solids comprise 50%, it produces 3,500 lb. per hr. with 100-lb. steam pressure. From the slurry tank, the ingredients enter the processing cylinders of the apparatus



Are you making NETTINGS *and* VEILINGS?



Consider the High Production Rates Available with the Kidde Knitter

Anything from a 15 denier nylon bridal veiling—sheer as a cobweb—to a rugged laundry bag net can be produced at new high speeds on the *Kidde* Knitter. Speeds varying from 200 to 280 courses per minute—depending on pattern and yarn—are being maintained in mills using this machine.

That's a substantially higher rate of production than has ever been attained on this type of machine before—but it's *typical* of the high, *sustained* speeds possible with the *Kidde* Knitter. A new drum drive, a new motion on needle bars make these speeds possible—and the machine is designed throughout to withstand them.

You'll find the *Kidde* Knitter adaptable to practically any type of yarn, thread or elastic—quickly and easily set up for simple or intricate patterns.

Use the Kidde *Knitter on these fabrics too*

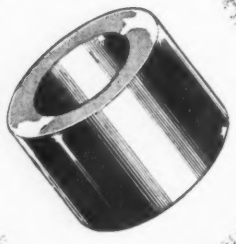
ELASTIC FABRICS for corsets, girdles, brassieres. DRESS FABRICS. DISH CLOTH MATERIALS. CURTAINS. NARROW FABRICS: edgings, braidings, laces. SHOE CLOTH. KNITTED OUTERWEAR FABRICS for sweaters, polo shirts.

Write for free literature on the Kidde Knitter—or, better still, see for yourself what it can do. A machine is in operation at our Bloomfield plant—write for an appointment for a demonstration.

The word "Kidde" is the trade-mark of Walter Kidde & Company, Inc., and its affiliated companies.

KIDDE MANUFACTURING CO., INC. • BLOOMFIELD, NEW JERSEY

WORKS WHERE OTHERS WON'T



accurately formed

GRAPHALLOY OILLESS BEARINGS

SPECIFY GRAPHALLOY WITH CONFIDENCE

TRADE MARK REG. U. S. PAT. OFF.

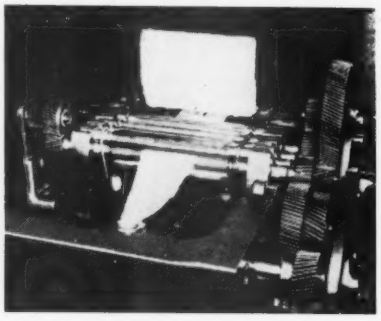
SELF-LUBRICATING ○ EXTREMELY DURABLE ○ CONSTANT CO-EFFICIENT OF FRICTION ○ OPERATES DRY — OR *SUBMERGED IN WATER, GASOLINE OR CORROSIVE LIQUIDS* ○ APPLICABLE OVER A WIDE TEMPERATURE RANGE — *even where oil solidifies or carbonizes* ○ EXCELLENT AS A CURRENT-CARRYING BEARING.

GRAPHITE METALLIZING CORPORATION

1027 NEPPERHAN AVENUE, YONKERS 3, NEW YORK

at room temperature and are cooked, uniformly mixed, and discharged into the Tommy Dodd at from 180° to 200° F., depending upon the formulation and the viscosity desired. The operation is continuous, virtually automatic, flexible, and economical.

Drawing System Has Ball-Bearing Construction



Use of ball bearings at all vital points is said to practically eliminate vibration.

A new all ball-bearing drawing system has been recently developed for both lap and can drawing by Ideal Industries, Inc., Bessemer City, N. C. The manufacturer states that test installations have shown that the new drawing system more than doubles production, lowers variation, and greatly increases breaking strength.

It is described as practically vibrationless. Bottom- and top-roll assembly, calender-roll-bearing assembly, break-draft-gear assembly, crown-tension-gear assembly, and crown-draft assembly are all equipped with permanently lubricated and sealed ball bearings. All weights are supported by the outer races of the ball bearings, enabling rolls to run freely at maximum speeds.

Self-aligning top and bottom rolls are said to produce a much better sliver. Unevenness of tension and drafting caused by worn collars is automatically eliminated, the manufacturer states, as conventional solid collars have been replaced with full 10-in. hardened and ground flutes. Frame can be operated with 6 ends up at back or from laps with 18 ends up. The drawing system is adaptable to common or metallic rolls; may be specified for new frames, or ordered as a replacement for existing equipment.

Italian Worsted-Machinery Line Offered

An Italian-made line of French-system worsted-yarn-manufacturing machinery is being marketed in this country by Ernest L. Frankl Associates, 10 East 40th St., New York 16, N. Y. Machines are made by S. A. Officiana Meccanica, S. Andrea No-

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Prompt Delivery

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Our Southern and Northern warehouse stocks permit same-day or overnight delivery 'most anywhere. Take advantage of these ready-to-ship sources of the finest travelers money can buy . . . And for service men who can talk with you and work with you on the spot, 'phone, wire or write Providence or Greenville, who will head a man your way promptly. A call to U. S. is a call that gets ACTION.

A Style and Size for Every Textile Fibre

Working Samples Gladly Sent

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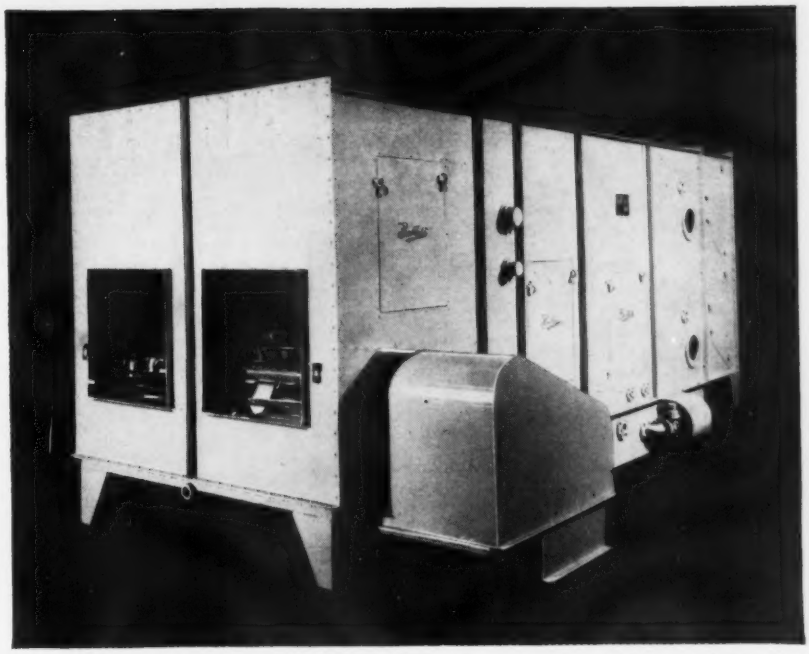
Providence—Box 1187—Gaspee 0100

AIR EQUIPMENT TO HELP YOUR BUSINESS



The "Buffalo" PCGW Unit combines Wet Glass Cell Air Washing with Heating and Tempering.

"Buffalo" AIR CONDITIONING *means* **PROFIT CONDITIONING** *in your plant!*

Your man-hours count for more and better production—quality is better—there's profit "in the air" when the air is right! And there's a "Buffalo" Air Conditioning Unit to keep your air "right" all the time —at LOW operating cost!

DO YOU NEED air washing plus tempering and heating—all in one compact unit? Then write for Bulletin 3457, describing "Buffalo" PCGW Cabinets.

DO YOU NEED controlled comfort conditioning? "Buffalo" PC Cabinets are available for continuous air cleaning, heating and humidifying, cooling and de-humidifying—automatically controlled, if desired. *Write for Bulletin 502A.* Make your *air* work for profits, too!

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Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

Branch Offices in all Principal Cities

FANS by "Buffalo"

EQUIPMENT FOR

- ★ VENTILATING
- ★ HEATING
- ★ COMFORT COOLING
- ★ PROCESS COOLING
- ★ AIR TEMPERING
- ★ AIR WASHING
- ★ EXHAUSTING
- ★ BLOWING
- ★ FORCED DRAFT
- ★ INDUCED DRAFT
- ★ PRESSURE BLOWING
- ★ CLEANING
- ★ DRYING

ITTING AIR COSTS IN EVERY BRANCH OF INDUSTRY

Smilin' Tex says:

"IT AIN'T BRAGGIN' IF YOU CAN PROVE IT"

If you ever drink the water of the Texas Coast country we'll lay money you'll come back

That's an old expression down here in Texas. Reason it came to be was because all the drinking water was so pure and good that every town thought it had the best.

And there will never be a shortage of industrial water because the rivers that flow across the coastal plains of Texas afford a more than adequate source.

But plenty of water is but one reason why you should locate your textile mill in Texas. Here are a few other "come-on's":

Texas produces 28% of the Nation's cotton yield, 21% of the wool clip, 84% of the mohair.

Natural gas is the cleanest, most economical fuel and Texas has 58% of the U. S. known reserve.

Unexcelled transportation facilities —land, water, air; no sales tax, no State income tax; cooperative, intelligent labor; sunshine; plenty of room for factory and home.

For a new textile site, Texas is your best bet.

Send for a Survey of the Texas Coast country. On request, we will prepare for your company a carefully engineered and confidential survey of the Texas Coast Country individualized to fit your particular problem. No cost, no obligation. Address Research Department, Houston Pipe Line Co., Houston, Texas.

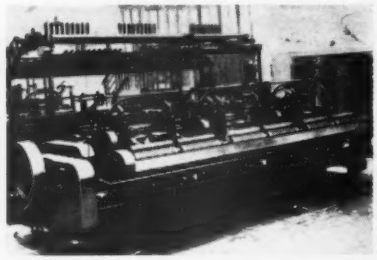
HOUSTON PIPE LINE CO.

Subsidiary of Houston Oil Company of Texas

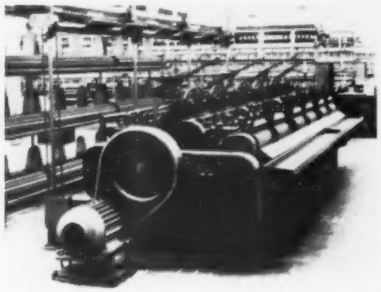
GEO. A. HILL, JR., President

Wholesalers of Natural GAS

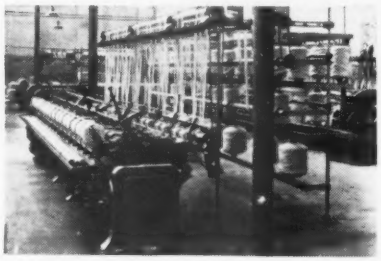
vara of Novara, Italy. Machines offered are intersecting-gill boxes for pre-combing gillings, French-type comb, after-combing intersecting-gill boxes, mixing gill box, gill boxes with rubbing attach-



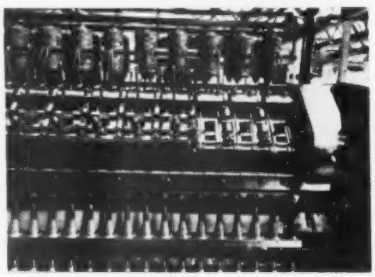
***High-quality workmanship** is said to be a main feature of this precombing gill box.*



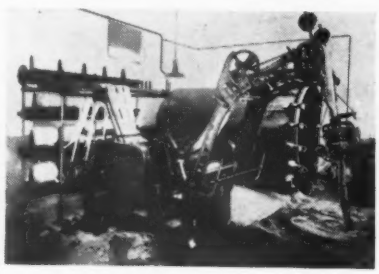
***Head gage** of this third passage pre-spinning gill box is 480 mm.*



***The fourth and fifth preparation** gillings may be done on boxes equipped with rubbing aprons.*



***The ring-spinning frame** has 400 spindles, has 5 sets of rollers.*



***A printing gill box** for vigoreux printing is available.*

PACKAGE DYED ACETATE YARNS

Fast Colors

Big Batches

Skeins eliminated

Very Level

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Atlantic Rayon CORPORATION

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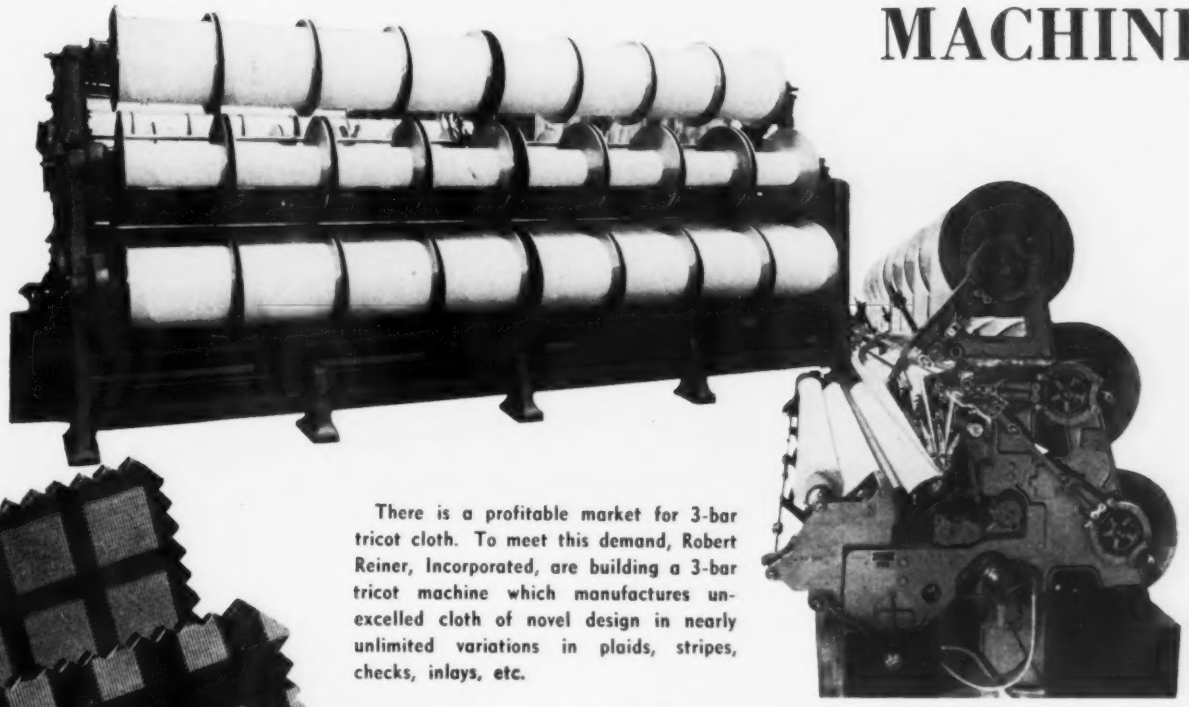
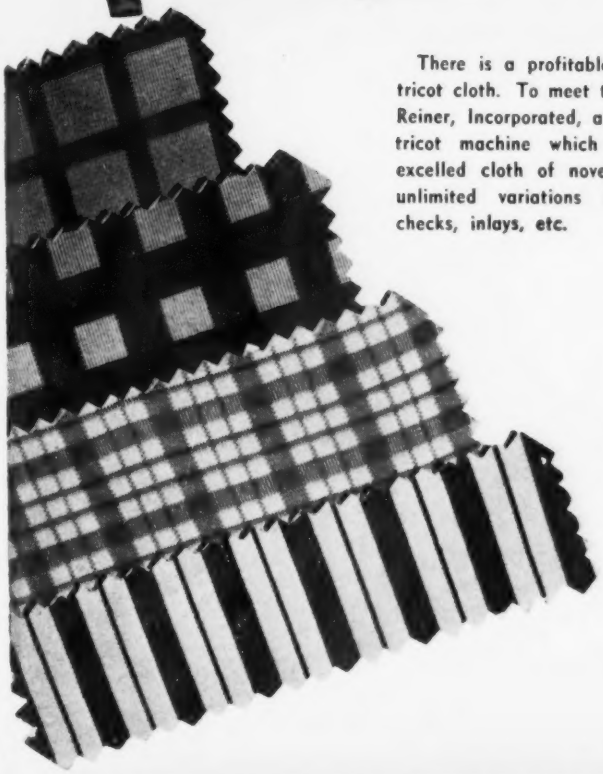
Here is the *Reiner* 3 BAR TRICOT MACHINE





There is a profitable market for 3-bar tricot cloth. To meet this demand, Robert Reiner, Incorporated, are building a 3-bar tricot machine which manufactures unexcelled cloth of novel design in nearly unlimited variations in plaids, stripes, checks, inlays, etc.

This 3-bar tricot machine runs at 320 courses per minute and can be stepped up to 360 courses when used as a 2-bar machine. Gauges are 14, 24, 26, 28, 32. Chain link or pattern wheel drive. The machine takes spools up to 21 inch flange diameter, or those of any conventional size.

This machine is already producing at various mills to the entire satisfaction of experienced knitters. Those interested in this profitable market are invited to write for details. Early deliveries are assured.

ROBERT REINER INC.

550-556 GREGORY AVENUE
WEEHAWKEN, NEW JERSEY

10 MINUTES FROM TIMES SQUARE. Take Bus Nos. 61, 67, 167 from the Times Square Public Service Terminal at 260 West 42nd Street, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . . . TELEPHONE: UNION 7-0502, 0503, 0504, and 0505.

1. FOR THE MONEY Whether you are a producer or user of Rayco Cotton waste and linters or synthetic waste, you'll find our prices are always fair.

2. FOR THE SHOW Feel free to call on us for full information and quotations at any time.

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RAYCO

***for* COTTON AND SYNTHETIC FIBERS**

ments, finisher gill boxes with porcupine, ring spinning frame, doubling winder, ring twisting machine, and a gill box for vigoreux printing of combed sliver. The machines feature precision construction and workmanship and are designed to produce high-quality worsted yarns at a rapid rate. Spare parts for the equipment will be warehoused in this country for quick delivery. Availability of the machines is said to be three to five months.

Standard Soiled Fabrics Aid Soap Tests

To simplify standard tests for evaluating detergents and the efficiency of washing machines, the United States Testing Co. Inc., Hoboken, N. J., is now producing standard soiled fabrics of cotton, wool, acetate, viscose, and nylon.

The new service is designed to eliminate the differences in test results due to the many methods used in preparing soiled fabrics. Slight differences in the makeup of standard soiled formulas can make wide differences in results.

Mill Maintenance

Proper Care Increases Life of Ball Bearings

We are able to operate ball bearings from 5 to 15 years in our mill by taking proper care of them. Of course, the job the bearing has to do greatly affects its life. A bearing on a high-speed shaft or one running under a heavy load would not be expected to last as long as one that runs relatively slow and with no load.

We follow these tips for increasing the life of our bearings:

1. Before a new bearing is put in, a careful check of the bearing housing is made. Special attention is given to the seals. If any fault is found, the bearing is not used.

2. Bearings are handled with proper tools. Adaptors are never tightened with a hammer and screwdriver; a wrench is used. On bearings not of the adaptor type, setscrews are tightened with proper setscrew wrenches. Bearings are not knocked on and off

Specialized Management Service for

THE TEXTILE INDUSTRY

Cotton—Wool—Rayon—Silk

- **Cost Reduction**
- **Method Improvements**
- **Market Research**
- **Training Programs**
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Comprehensive and correlated advice and assistance on labor, cost, methods and policy matters.

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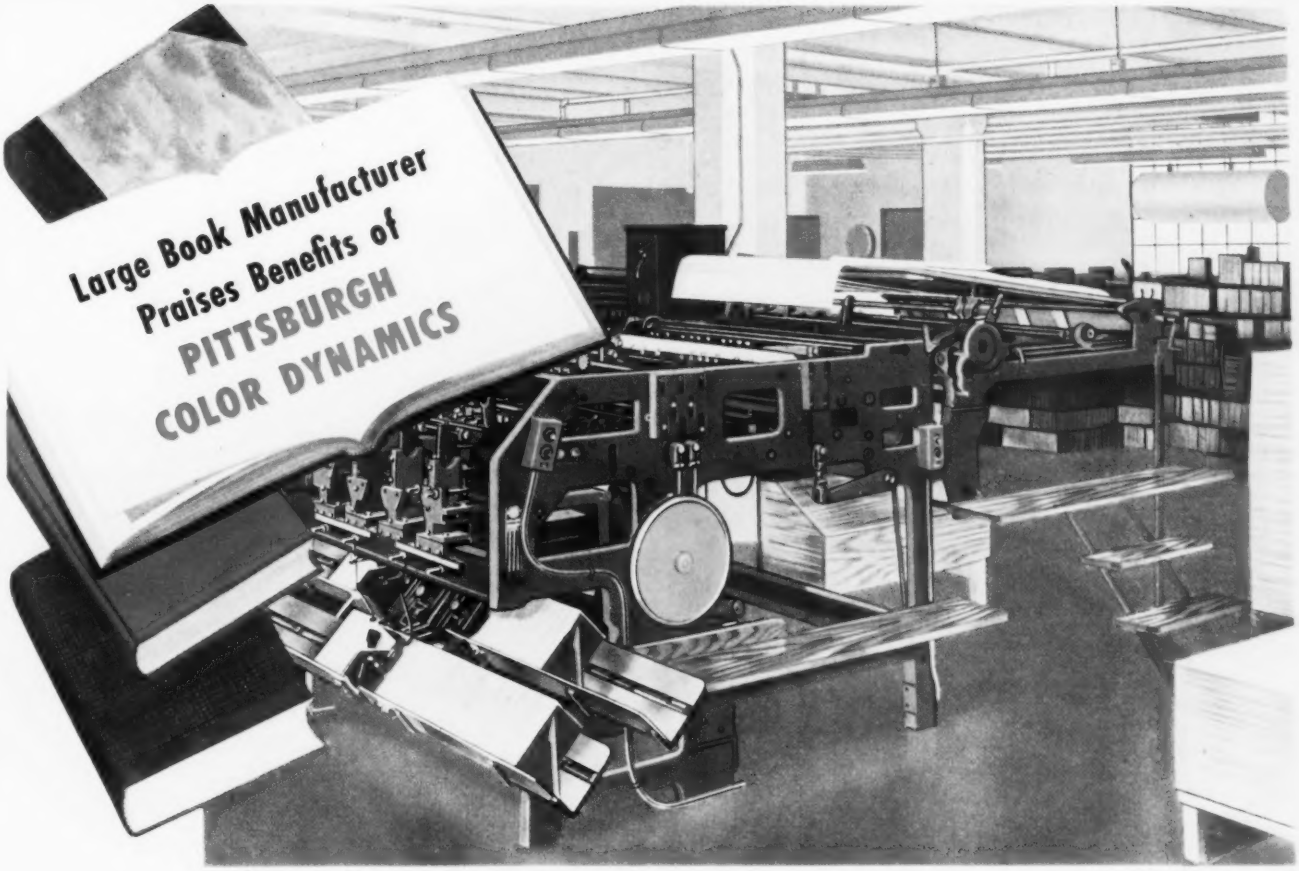
descriptive leaflets of the Mellor Bromley Interlock and many other top line machines

MELLOR BROMLEY AND CO. LTD.
LEICESTER, ENGLAND



Production Efficiency . . . Worker Morale . . . Housekeeping Standards—are improved in plant of George McKibbin & Son by new scientific system of painting

EXPERIENCE in a wide variety of industries has shown that workers whose surroundings are painted according to the principles of Pittsburgh's scientific painting system of COLOR DYNAMICS benefit in many ways.

Another striking instance of such betterments are the results achieved in the plant of George McKibbin & Son, of Brooklyn, New York, who print and bind 35,000 books daily. Their output includes books of all kinds—school and college text books, fiction and non-fiction, scientific and technical manuals.

"Results obtained from the application of Pittsburgh COLOR DYNAMICS," writes George McKibbin, "have been very gratifying. The colors which you specified have had a favorable effect upon the morale of our employees, have improved our housekeeping standards, and have also contributed to a reduced turnover and fewer accidents. Since all these things help production, some of our increase in output must be credited to COLOR DYNAMICS, thus justifying our decision to make use of this new painting method."

Hundreds of similar examples and comments are proving the soundness of the principles of Pittsburgh COLOR DYNAMICS which are based upon the *energy in color.*

By this method, every color used on machines, walls, floors and ceilings of a plant performs a definite function. *Focal* colors used on a machine provide an easily visible contrast between the machine itself and the material being fabricated. *Eye-rest* colors provide eye-relaxation for the worker when he glances up from his work. *Morale-building* colors create a background of cheerfulness which is the best antidote to mental depression. *Safety* colors used on boundary lines and on mobile equipment lessen accident hazards.

Your plant may be in need of COLOR DYNAMICS. Why not test its value on a machine or two—or in one department of your plant? Note the difference it makes—in efficiency, morale and output.

We'll gladly send you a FREE booklet which explains simply and clearly what Pittsburgh's COLOR DYNAMICS is and how you can put it to work.

Paint RIGHT with Color Dynamics
Paint BEST with Pittsburgh Paint!

The benefits of COLOR DYNAMICS are made more enduring when you use Pittsburgh's long-lasting high-quality paints for every need.

WALLHIDE—available in four types; **FLAT**—a velvet-like finish that is beautiful and restful; **SEMI-GLOSS**—with higher sheen; **GLOSS**—with enamel-like sheen; **PBX**—extra-durable finish can be washed frequently without streaking or spotting.

LAVAX PBX ENAMEL—for woodwork, furniture or metal trim. Brushes out freely and easily to a smooth, satin finish that resists marring and abrasion.

FLORHIDE—for floor surfaces. Quick-drying, tough, can be scrubbed with soap solutions.

LAVAX MACHINERY ENAMEL—a durable finish impervious to grease, grime or dirt.

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Our booklet—"COLOR DYNAMICS IN INDUSTRY"—explains this new painting system and how you can use it in your plant. Mail this coupon for your FREE copy.

Pittsburgh Plate Glass Co., Paint Div., Department TW-10-8, Pittsburgh 22, Pa.

Please send me a FREE copy of your new revised and enlarged Booklet, "*Color Dynamics In Industry*".

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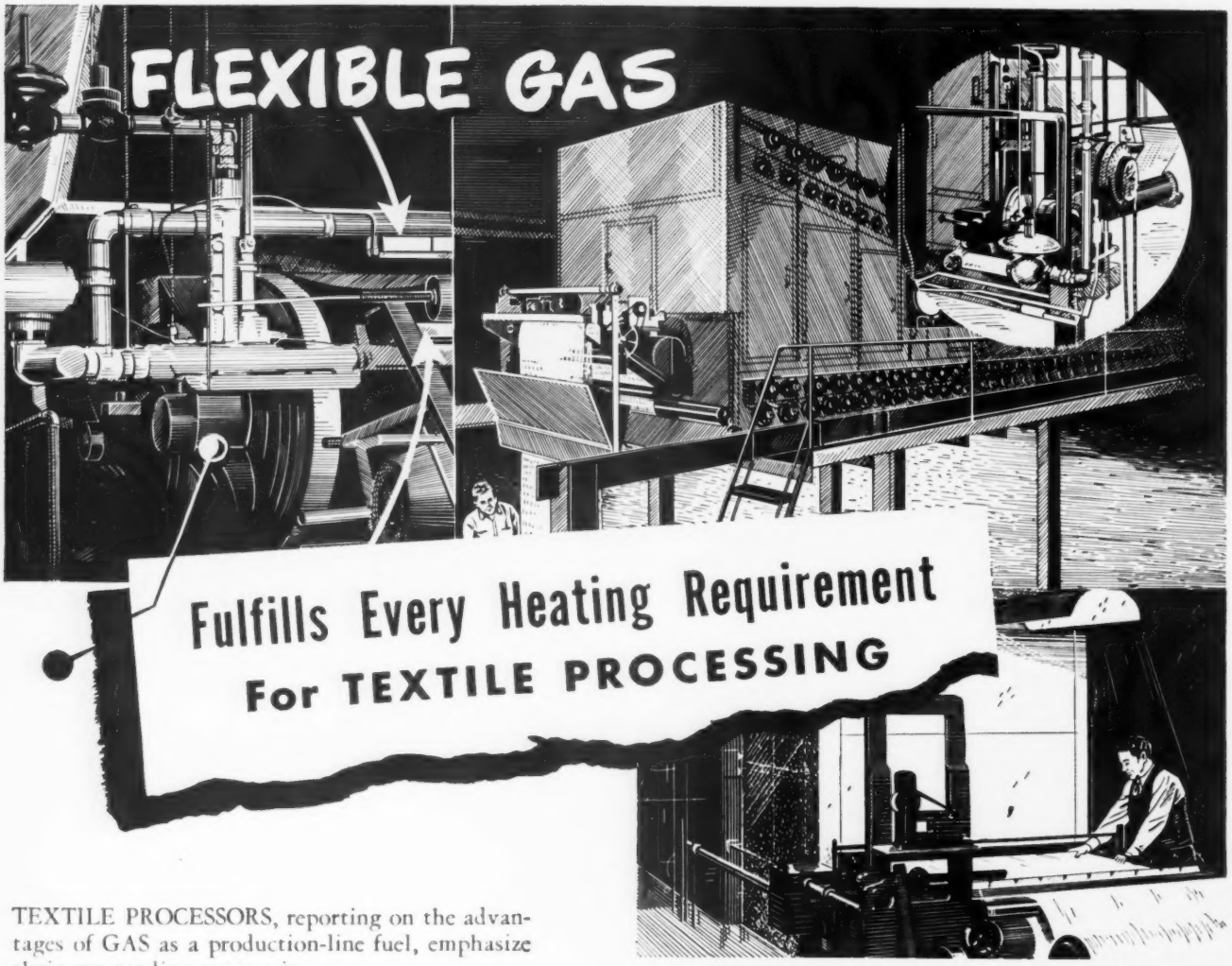
PITTSBURGH PLATE GLASS COMPANY

Radiant ceramic GAS burners (arrows) arranged to increase drying speed of battery of steam dryers

Gas-fired curing unit used in curing resin treated fabrics



Fulfills Every Heating Requirement For TEXTILE PROCESSING

TEXTILE PROCESSORS, reporting on the advantages of GAS as a production-line fuel, emphasize their outstanding success in—

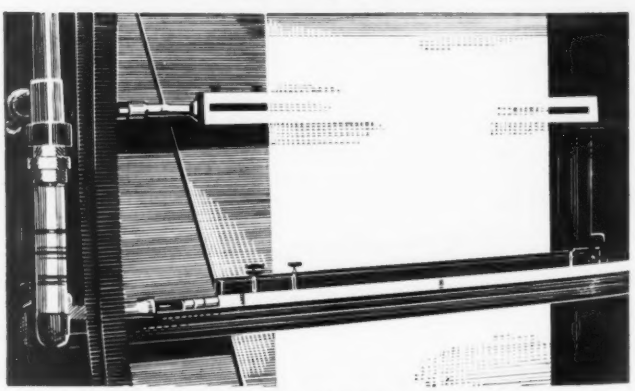
- **Reducing Costs**
- **Increasing Capacity**
- **Improving Fabrics**

There are many advantages to be gained from the use of GAS in textile processing. One of the most important characteristics is the flexibility of GAS —a feature which permits its use as an accessory with existing equipment, or as a complete unit in modern production-line processes.

For drying, singeing, polymerizing, sizing, calendering, pressing, there's no fuel comparable to GAS for automatic controllability, economy, cleanliness. Wherever you need heat for textile processing there's a task for GAS and a place for modern Gas Equipment.

You'll find modern Gas Water Heating Equipment worth investigating, too.

Slasher used in cotton processing, showing yarn leaving Gas-fired drying chamber



Singeing of cotton cloth of varying weights is readily possible with automatically controlled, radiant ceramic GAS burners

AMERICAN GAS ASSOCIATION

420 LEXINGTON AVENUE, NEW YORK 17, N.Y.

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THE TREND IS TO GAS

FOR ALL INDUSTRIAL HEATING

when you use metso

it's cleaner

All cleansing operations using either soap or synthetic detergents are stepped up when built with Metso Granular. A scientifically balanced alkali-silica detergent, Metso loosens more dirt and grease. And its unique function is to prevent the redeposition of removed dirt. That's why with Metso, it's cleaner.

PHILADELPHIA QUARTZ CO.
1139 Public Ledger Bldg.
Philadelphia 6, Pa.

Get a sample of Metso Granular (A member of the PQ Silicates family used in many textile processes.)

METSO

shafts; they are pressed on and off.

3. We put only enough grease in a repacked bearing to cover both sides of the ball race with a thin coat of grease.

4. Bearings are inspected regularly. A clicking bearing usually means that grease is needed. A hot bearing often means that there is too much grease in the bearing.

5. We dope our bearings every 3 months; never oftener, except in an emergency. Usually, two or three strokes with an Alemite gun gives enough grease for the bearing.

6. Once a year, we take the bearing apart, wash, repack, and reassemble it. (*M-3*)

Now Is the Time To Check Heating Systems

Late summer and early fall is the time to put the heating system in good operating conditions. With rising fuel costs and scarcity of both coal and oil, importance of checking up and making necessary corrections to the heating and air-conditioning system cannot be stressed too much.

Check all pipings and valves. Flues are often neglected and should be cleaned to obtain maximum efficiency of the heating plant. Exposed piping should be covered with proper insulation. Insulation of piping not only cuts fuel costs, but it prevents condensation and droppings that may damage processing yarns and cloth. (*M-1*)

Weekly Inspection Made For Missing Machine Guards

Formerly, every time the insurance inspector made his call at our mill, all conditions seemed to be satisfactory with the exception of a few missing machine guards. Here and there a shuttle guard would be off a loom, a motor guard or small gear guard missing. Such missing guards were listed and replaced without waiting for the customary letter sent by the insurance company.

Machine guards are usually removed when certain machine repairs are made. High-speed looms do cause shuttle-guard breakage; and some fixers have a habit of making belt repairs and permitting belts to run a while without the guards.

We now check for these things each week end. A member of the maintenance crew makes an inspection of guards and notifies fixers where guards are off. The mechanic who removed a guard is obliged to replace it.

Since this system has been in effect, the number of missing guards found by the insurance inspector has been negligible. (*M-4*)

HARWOOD BRAMWELL® FEEDERS

Insure Maximum Uniform Feeding

Geo. S. HARWOOD & Son

Specialists in Textile Feeding Machinery Since 1863

50 LAGRANGE STREET
WORCESTER 8, MASS.

TIPTON

Speeder and ring spun, all sizes 14's and coarser, single and plied. Cotton and spun rayon. Natural or Dyed.

CUSTOM MADE—
CUSTOM PUT-UP
TO YOUR
PARTICULAR
SPECIFICATIONS

Our flexible methods of operation assure your requirements. Tell us your needs and we will meet them promptly.

"SPECIALISTS IN ENGINEERED SERVICE"

HYDE PARK MILLS INC
Covington, Tenn.

SPINNERS!

HERE ARE YOUR FOUR FREEDOMS!

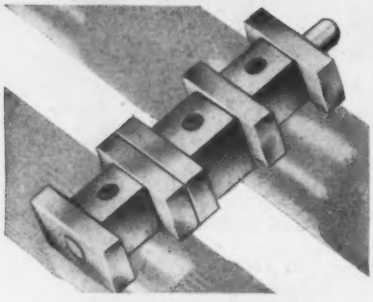
Freedom from

1. Oiling.
2. Heavy lint accumulation.
3. Frequent roll picking.
4. Expensive cap bar wear.

This NEW

CAP BAR

Provides Them



The new Dixon Cap Bar* provides long draft spinners with an oil-free, frictionless drafting unit that cuts spinning cost and increases yarn quality. It features replaceable SLIXONICE* nebs with four wearing surfaces instead of the usual one, and opens the way to new spinning accomplishments, especially when used with the new Dixon SLIXONICE Saddle.

The new cap bar is adjustable for each roll, has a positive locking device, and reduces average power consumption.

Send for the new Dixon SLIXONICE booklet. It tells all about the new cap bar and the new SLIXONICE saddle. You'll see just how this startling combination can cut *your* spinning costs and improve the quality of *your* yarn.

*Trade Mark; Pat. Applied For

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LUBRICATING SADDLE CO

Established 1876

BRISTOL — RHODE ISLAND

Sole Manufacturers of

SLIXONICE

Saddles and Cap Bar Nebs

Dyes & Chemicals

New Dyes Produce Bright, Fast Colors

A new line of dyes, Calconyl double solutions, has been introduced by the Calco Chemical Div., American Cyanamid Co., Bound Brook, N. J. Calconyl double solutions are stabilized azoic dyes requiring acid aging, recommended especially for cotton printing but which can be used on viscose. The new line of yellows, reds, and scarlet are reported to be most desirable because of their excellent brightness and economy in full shades.

Reports indicate that Calconyls produce heavy, bright shades of very good fastness to light, washing, chlorine, perspiration, dry cleaning, and hot pressing, and offer a wider range of shades in the same pattern than are obtainable when printing on naphthol-prepared material. It has been pointed out that they are satisfactory for use in patterns along with other acid-aging types of dyes such as soluble vats or resin-bonded pigments.

Calconyls are reported to be very stable under normal conditions and to not precipitate or separate on long standing in the color shop.

Printing Emulsion Additive Will Not Support Bacteria

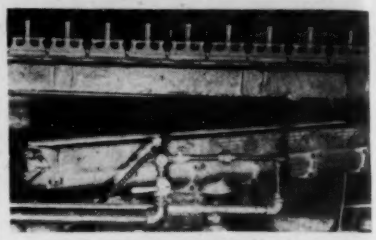
A new synthetic, non-creaming thickener for natural and synthetic latex has been developed by American Polymer Corp., Peabody, Mass. Known as Polyco 296, this new product is based upon acrylate copolymers and can be diluted with hot or cold water to provide higher viscosities at lower concentrations than most commercial thickeners.

Because of its unique chemical composition, Polyco 296 is reported not subjected to the rotting, scouring, and mildewing usually encountered with naturally derived gums, proteins, and starches. It will not support bacteria growth, is non-oxidizing, non-yellowing, stable in the presence of heat, and resists oils, fats, greases, and aliphatic solvents.

Polyco 296 is recommended as an additive to thicken latices and resin emulsions for textile printing, pastes and sizes.

THE INFRED RADIANT HEAT

GAS OR ELECTRIC



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Fabrics that contain a dominant proportion of Lanese, Celanese' staple fiber of acetate rayon, are gaining wide recognition for their wrinkle-resistance, high degree of dimensional stability, and excellent tailoring qualities. In the apparel trades, the trend is toward Lanese, the scientifically crimped fiber for fabrics of varied texture and weaves.

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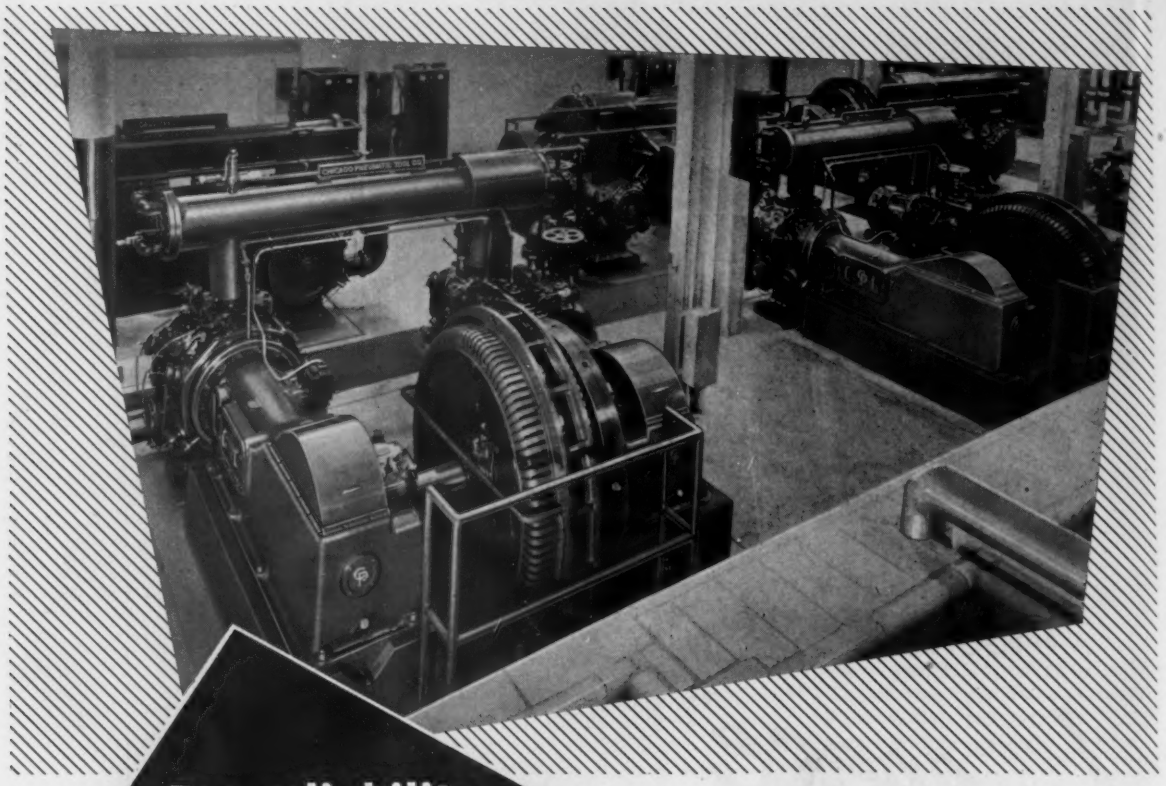

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The Chicago Pneumatic Class O-CE Compressor is of the horizontal, double-acting, water-cooled type, with direct-mounted synchronous motor drive; in sizes up to 1,750 h.p., for pressures up to 5,000 pounds.

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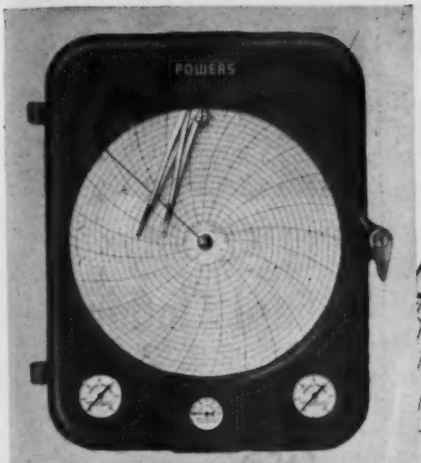
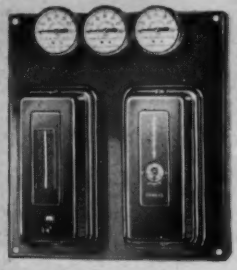
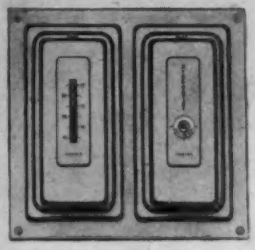


POWERS WET and DRY BULB RECORDER REGULATOR

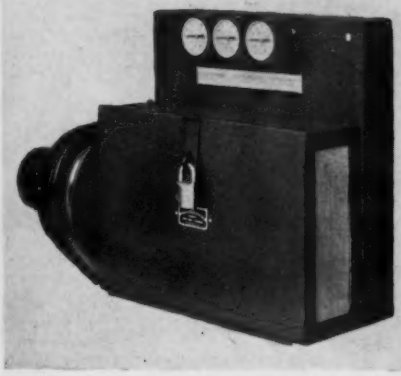
At Right
HYGROSTAT and THERMOSTAT COMBINATION for Exposed Piping

Below
HYGROSTAT and THERMOSTAT for Concealed Piping





Below—Powers Aspirator Box containing Hygrostat and Thermostat over which is drawn, by suction fan at left, a stream of air filtered by fine screens. Widely used in Textile Mills and suitable for other industries.



Only a few of our many different types of Humidity Controls are shown here. For further information phone or write our nearest office.

HY2

Want More Accurate HUMIDITY Control?

Above
ROOM HYGROSTAT for Concealed Piping
At Left
ROOM HYGROSTAT for Exposed Piping • Above DUCT HYGROSTAT

POWERS Type 190 HYGROSTATS

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Controls valves or dampers in connection with heating or cooling coils, humidifiers, air washers, humidifying atomizers, spray nozzles, etc.

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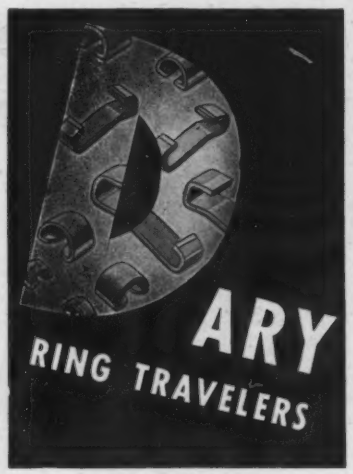

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Dary Ring Travelers are made for the sole purpose of knowing their way around your spinning rings. Manufactured by the exclusive Dary Process, Dary Ring Travelers have the correct weight, temper and stock—guaranteed to be right for your spinning requirements.

Dary Ring Travelers are produced under rigid supervision and inspection to make certain their quality is always the highest. Processed for hard, smooth durability, their balance and uniformity make possible the use of higher spindle speeds. In short, Dary Ring Travelers are made to know their way around! They'll do a better job around your spinning rings.

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Books of Interest

Fiber Consumption in U. S. For 54 Years Surveyed

TRENDS IN CONSUMPTION OF FIBERS IN UNITED STATES, 1892-1946, by Robert B. Evans and Barkley Meadows; U. S. Dept of Agriculture, Southern Regional Research Laboratory, New Orleans, La.; 108 pages.

This report is intended to serve as a source of basic data on consumption of fibers in this country, and gives statistics on the basis both of quantities used by mills and quantities used by ultimate consumers. The volume provides a condensed summary on four pages; it covers per-capita consumption trends and trends in exports and imports of fiber manufactures. Basic tables are in the appendix, and there is an addendum giving 1947 data in the front of the report. Some of the overall conclusions of this report appeared in TEXTILE WORLD for March, 1948, under the title "Fiber Consumption Shows Cotton Dominance, Rayon Rise."

Presents All Aspects Of Industrial Relations

INDUSTRIAL RELATIONS HANDBOOK, edited by John C. Aspley and Eugene Whitmore; Dartnell Corp., 4660 Ravenswood Ave., Chicago, Ill.; 1,254 pages, $10.00.

The third edition of this complete text on personnel, public, community, and government relations for industry contains revisions to include all changes brought about by the Taft-Hartley law. This new edition approaches employee relations much more realistically than was possible or necessary in the first edition which appeared during the war when victory was paramount. A total of 56 chapters deal with every aspect of personnel department objectives, organization, and policies.

Aspects of industrial relations covered are: contract negotiations, grievance procedures, settling disputes, labor-management committees, job analysis and evaluation, production incentives, wage administration, safety and accident prevention. Chapters on

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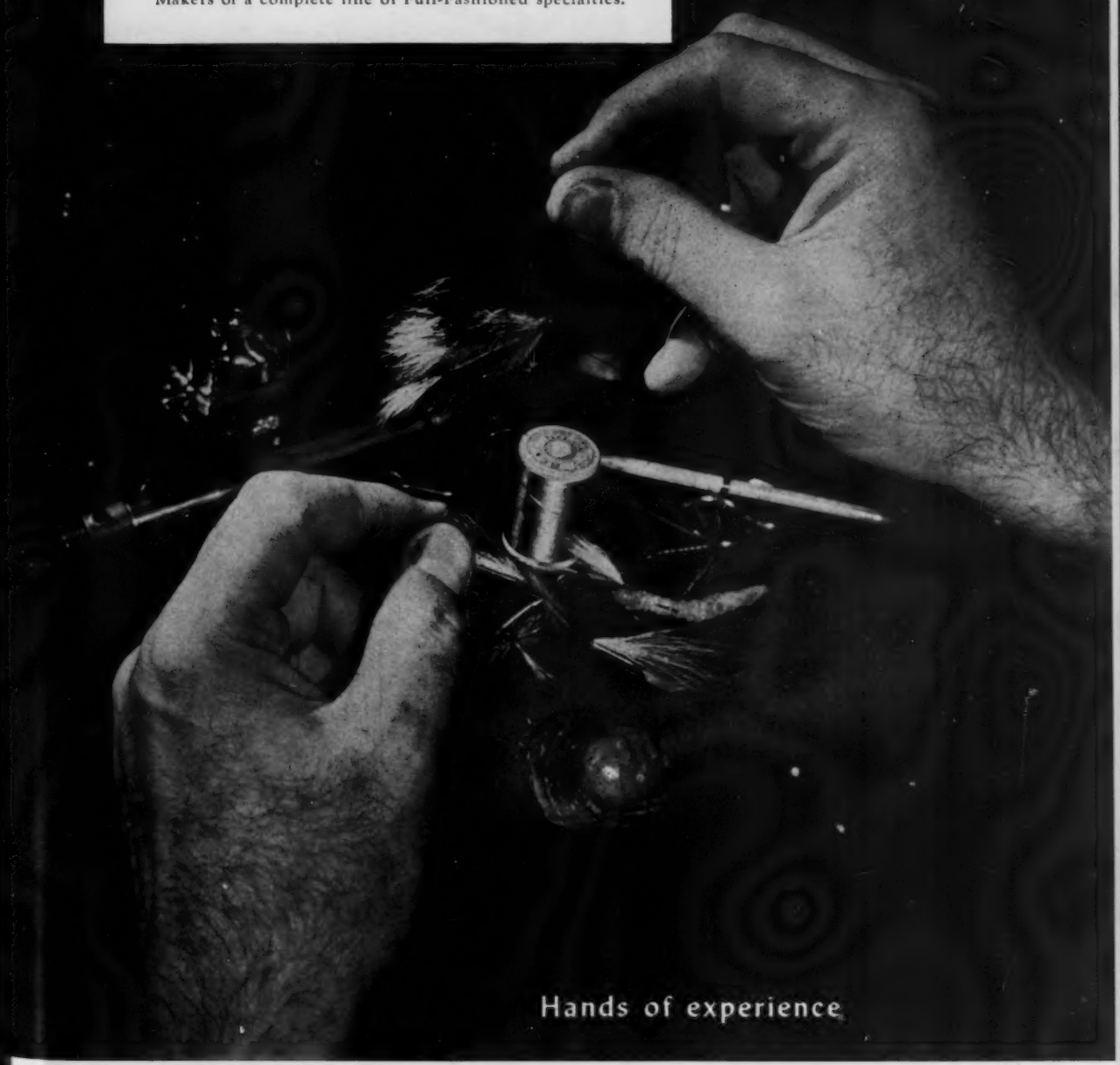

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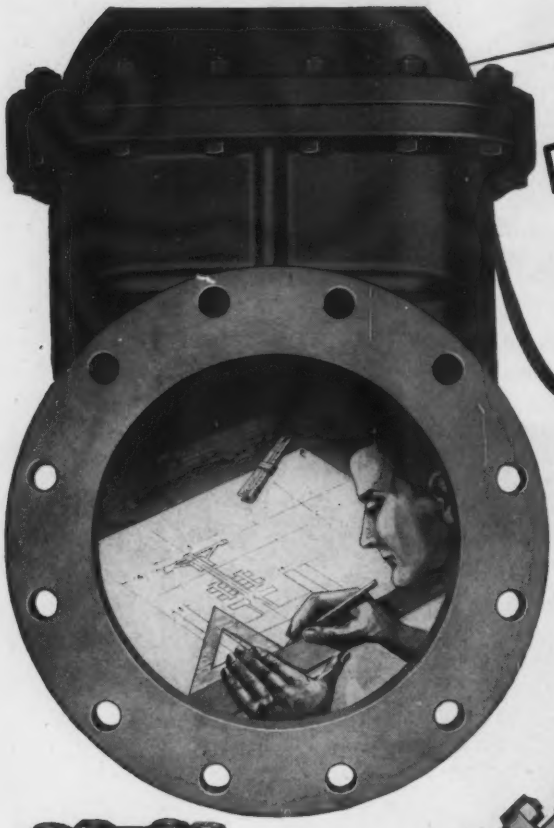

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But don't be misled! We know that quality often suffers through so-called "mass production" methods. So every Powell Valve from a standard small bronze globe to the most special design for corrosion resistance is given the most meticulous, individual attention. That's why Powell Valves have such an outstanding reputation for long life and dependable performance in every branch of industry. It pays to install Powell Valves.

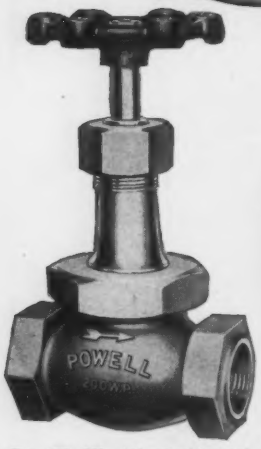

Fig. 1861-IN—200-pound Inconel Globe Valve with screwed ends, union bonnet, inside screw stem and plug type disc.

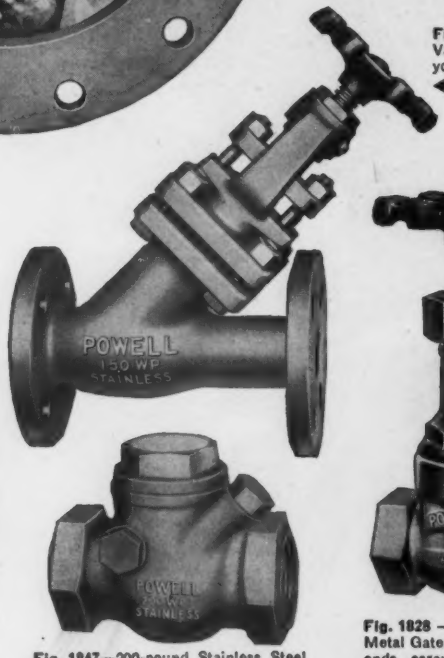

Fig. 1847—200-pound Stainless Steel Swing Check Valve with screwed-in cap and regrindable, renewable disc.

Fig. 2051—150-pound Stainless Steel "Y" Valve with flanged ends, bolted flanged yoke and outside screw rising stem.

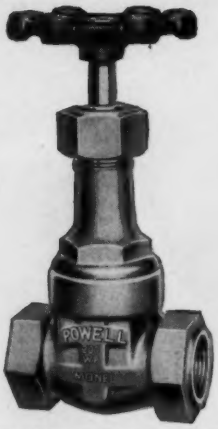

Fig. 1828 — 200-pound Monel Metal Gate Valve with screwed ends, screwed-in bonnet and inside screw rising stem.

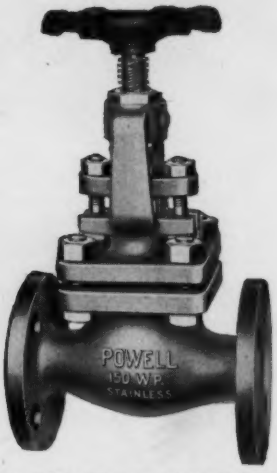

Fig. 1969—150-pound Stainless Steel Gate Valve with flanged ends, outside screw rising stem, bolted flanged yoke-bonnet and tapered solid wedge.

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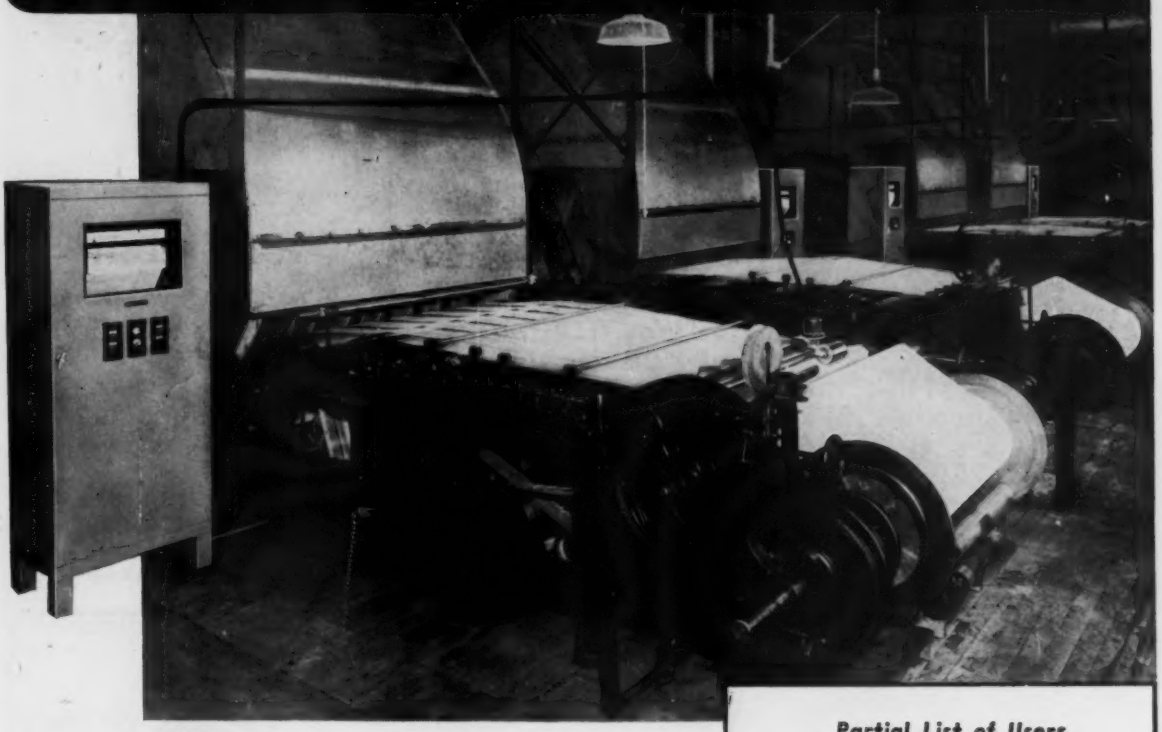

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On over 400 cotton and rayon slashers throughout the United States and Canada, superior warps are being delivered to the weave room because of the Brown Moist-O-Graph Slasher Control System.

The Moist-O-Graph increases slasher and weave room production. It cuts down broken ends because warps are never too *dry*. It eliminates mildew because warps are never too wet.

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organization and operation of the personnel department discuss employment methods; employee classification, testing, records, training, and upgrading; merit rating; attitude surveys; profit sharing; suggestion systems; insurance plans; the old-employee problem; credit unions; nutrition planning; recreational activities. Several chapters deal with keeping employees informed; employee publications and manuals; annual report to employees; public, press, community, and government relations.

The book is comprehensive in its coverage of each topic, and authoritative contributions on various subjects have been made by well-known experts. It should find a place in every textile mill as a basic work on sound personnel policies and procedures.

Wool Wax, Its Extraction And Its Many Uses

WOOL WAX, by D. T. C. Gillespie; Hobart Publishing Co., Washington 15, D. C.; 96 pages, $5.00.

The literature has been scanty on the subjects of wool wax, lanolin, cholesterol and the many derivatives and uses of the by-product of sheep's fleece. This book gains a niche for itself due to its technical thoroughness and large number of detailed explanations of the end-products derived from the basic wax. The author compiled the book for the Commonwealth of Australia, and it should prove of considerable interest to wool processors; the textile industry; pharmaceutical, cosmetic and soap manufactures; designers of wool-wax processing machinery; the leather and paint industries; and chemists doing research in these fields. The last 36 pages of the book are devoted to a listing of 422 literature references, perhaps the most comprehensive compilation on this subject ever made. Data are given on the chemical properties of wool wax, uses and derivatives, purification of wool wax by a number of processes, wool-wax acids, and many other technical aspects.

Pro and Con for Registration Of Engineers

PROFESSIONAL REGISTRATION LAWS AND THE ENGINEER, by A. M. Sargent; A. M. Sargent, 19669 John R St., Detroit 3, Mich.; 60 pages, 75¢.

This work embodies a study of the registration laws and their general implications in the various states. This is believed to be the first work on the subject which has appeared. The subject is of importance not only to men in all phases of engineering, but to management and workers alike.

The double end Fidelity Skein Reeler shown
Fidelity also makes a 6 and a 9
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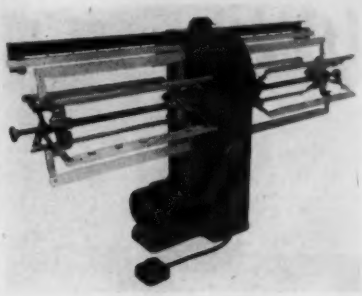

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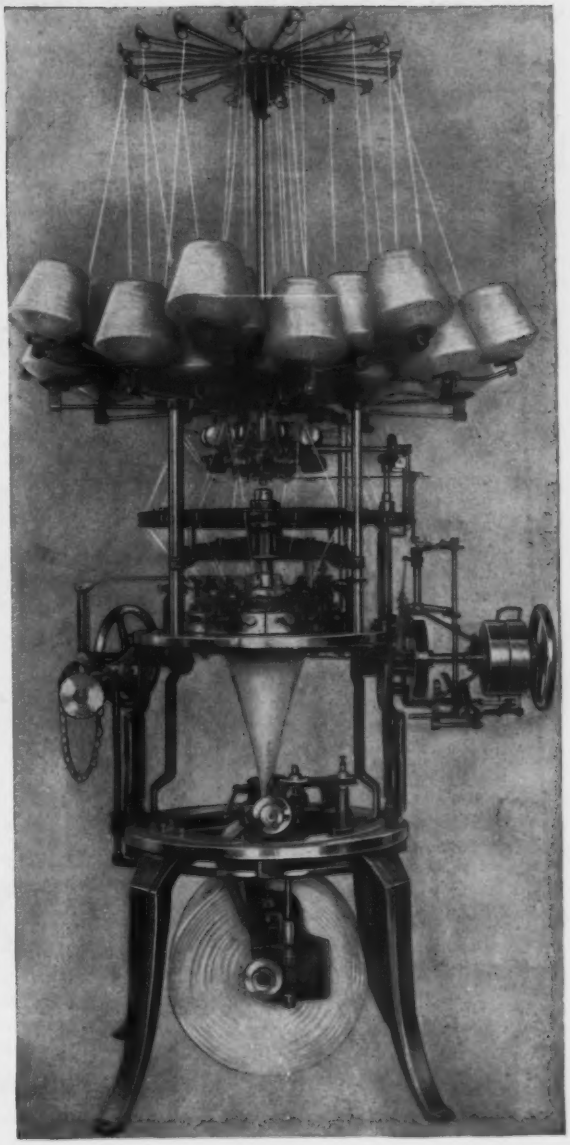

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Its beautiful workmanship, perfect and consistent, has set a higher standard in knitted wear throughout the land. It offers practically unlimited style opportunities.

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This Wildman machine feeds yarn under such even tension that uniformity in sizes is a natural result. The ability to tie cone to cone without stopping is another feature.

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With this Wildman machine as a base, our engineers are constantly meeting special product demands and requirements of mills everywhere. We shall be glad to work out your knitting problems.

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News of the month

International Agreement on 65% r.h. World-wide agreement on the conditioning of textiles has been achieved in the confirmation by International Standards Organization delegates of the 65% relative humidity standard for testing materials at the recent meeting in Buxton, England. It is expected that this will strengthen the stand of the American textile industry in insisting on maintaining the 65% r.h. basis against a proposed change by the National Bureau of Standards. Agreements on universal yarn counts, textile strength testing, definition of "rayon," and methods of testing rayon were other subjects taken up at the English meeting.

Rules for Shrinkage Labeling. A trade-practice conference to consider representations concerning shrinkage or dimensional control of wool products was held by the Federeal Trade Commission on Sept. 16. Chairman Robert E. Freer presided at the Hotel Pennsylvania, New York. The conference considered suggested trade-practice rules respecting labeling, advertising, and sales promotional designations; representations or claims relating to shrinkage and dimensional control; as well as an AATCC standard wash test.

To Focus on Wet Processing. The scope of the exposition to be held at the 71st Regiment Armory, New York, Mar. 21 to 25 next year which was originally planned as an International Exposition of Textile Machinery, Equipment & Supplies, has been modified, according to recent announcement by Arthur Tarshis, exposition manager. The show will be known as the Textile Wet Processing Equipment & Supplies Exposition; and the exhibits will be restricted to products of interest to those engaged in the dyeing, finishing, and bleaching of textiles. In making known this change in the show, Mr. Tarshis said the survey just completed by his company discloses heightened interest in this branch.

Textile Calendar

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 4 to 9, 1948.

New England Materials Handling Exposition, Mechanics Hall, Boston, Mass., Oct. 5 to 7, 1948.

National Chemical Exposition, Chicago Coliseum, Chicago, Oct. 12 to 16, 1948.

National Cotton Council's 1948 Beltwide Cotton Mechanization Conference, Lubbock, Texas, Oct. 14 to 16, 1948.

AATCC, R. I. Sect., dinner meeting, Johnson's Commodore Room, Providence, Oct. 15, 1948.

Textile Operating Executives of Georgia, meeting, Atlanta, Ga., Oct. 16, 1948.

Narrow Fabrics Div., Cotton-Textile Institute, Carolina Hotel, Pinehurst, N. C., Oct. 16 and 17, 1948.

National Safety Congress & Exposition, Chicago, Oct. 18 to 22, 1948.

Committee D-13 of ASTM, Washington, D. C., Oct. 13, 14, and 15, 1948.

AATCC, annual convention, Sheraton Bon Air Hotel, Augusta, Ga., Oct. 21 to 23, 1948.

Cotton-Textile Institute, annual meeting, Waldorf-Astoria, New York, N. Y., Nov. 11, 1948.

Carded Yarn Association, annual meeting, Hotel Charlotte, Charlotte, N. C., Nov. 17, 1948.

Textile Research Institute, annual meeting, New York, Nov. 18 and 19, 1948.

AATCC, New York Section, meetings at Kohler's Swiss Chalet, Rochelle Park, N. J.—Nov. 19, 1948; April 1 and May 6, 1949; in New York—Jan. 14 and Feb. 25, 1949; Outing on June 17, 1949.

18th National Exposition of Power & Mechanical Engineering, Grand Central Palace, New York, N. Y., Nov. 29 to Dec. 4, 1948.

International Heating & Ventilating Exposition, 9th annual show, International Amphitheater, Chicago, Ill., Jan. 24 to 28, 1949, in conjunction with 55th annual meeting of American Society of Heating & Ventilating Engineers.

American Society for Testing Materials, annual meeting, Atlantic City, N. J., June 27 to July 1, 1949. ASTM committee week and spring meeting, Chicago, Feb. 27 to Mar. 4, 1949.

National Cotton Council, 11th annual meeting, Los Angeles, Calif., Mar. 7 to 9, 1949.

Textile Wet Processing Equipment & Supplies Exposition, 71st Regiment Armory, New York, N. Y., Mar. 21 to 25, 1949.

American Cotton Manufacturers Association, annual meeting, Palm Beach, Fla., Mar. 31, Apr. 1 and 2, 1949.

American Gas Association, sales conference on industrial and commercial gas, Andrew Jackson Hotel, Nashville, Tenn., Apr. 5 to 7, 1949.

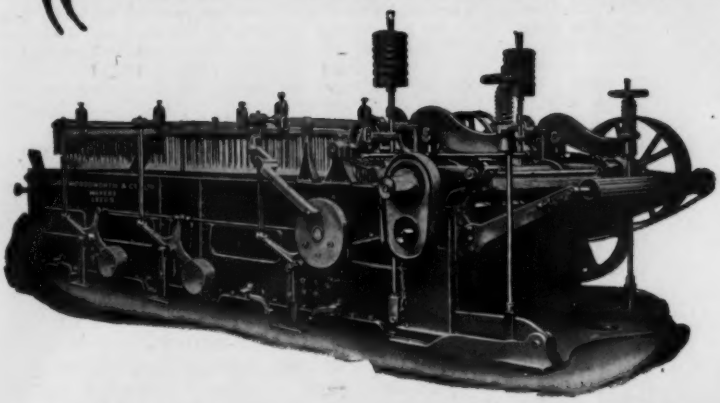
Knitting Arts Exhibition, Atlantic City, N. J., April 25 to 29, 1949.

American Society for Testing Materials, first West Coast meeting, Fairmont Hotel, San Francisco, Calif., Oct. 10 to 14, 1949.

American Textile Machinery Exhibition (and Allied Industries) sponsored by National Association of Textile Machinery Manufacturers, Atlantic City Auditorium, Atlantic City, N. J., May 8 to 12, 1950.

Textiles Wages Up 8% in August. Following the agreement between Dan River Mills and the CIO-TWUA and the granting of an 8% wage increase, Southern mills generally raised wages. The wage boost did not sweep through the industry like a prairie fire

for Perfect WOOL WASHING



The LEVIATHAN Wool Washing MACHINE

This modern Harrow type machine handles the stock gently and with little agitation through every stage. All the controlling mechanism is below the top of the bowls and all the belts are on one side, permitting rapid inspection of the progress of the wool. Settling tanks extend the full length of the bowls, giving maximum area for dirt settling.

Aireflow DRYING MACHINE for Wool, Cotton, Flax, Rags, and any type of similar raw material.

An entirely New Dryer of the single Apron Type with a positive and controlled air circulation. Compact in size, low in steam consumption and upkeep costs. Entirely accessible and clean in operation. No danger of colour mixing with dyed materials.

● *View at Feed end showing "built-in" auto feed and working side of dryer.*

● Before or after Dyeing.

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Atkinson, Haserick & Co., 211 Congress St., Boston 6, Mass.

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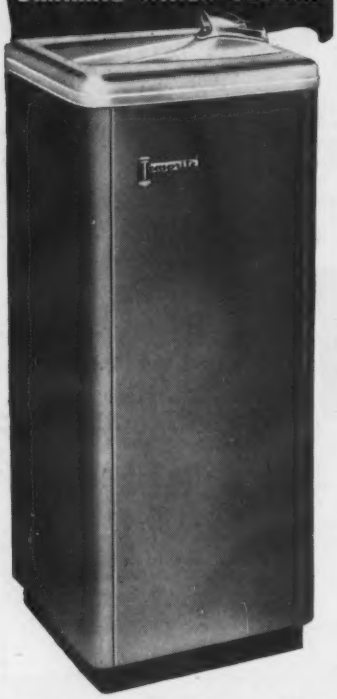
STREAMLINED STYLING in the New TEMPRITE DRINKING WATER COOLERS



1. Smart, streamlined styling blends harmoniously into all surroundings. 2. Effortless finger-tip pressure produces a steady stream of perfect-temperature drinking water. 3. No spouting, no splashing, no annoying fluctuations in water flow. 4. Bubbler design gives maximum sanitary protection.

User Protected by Temprite's 5-Year Warranty Plan

All models meet requirements of the National Bureau of Standards and Underwriters Laboratories, Inc.

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Manufacturers of water cooling equipment since 1929.

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FABRICA VICTORIA DE PUENTE ALTO, S. A., a long-established Chilean textile firm, placed contracts for a 7,000,000-lb. viscose-rayon plant with Oscar Kohorn & Co., Ltd., New York, in 1946. Construction began in February, 1947, and operation of the plant began in July, 1948. The Kohorn plant has been placed in charge of the technical management of the plant. Location is on the Maipo River, near the port of San Antonio. The plant will produce filament rayon, crepe yarns, staple fiber, and spun rayon; it will not only supply its parent company but will make Chile nearly self-sufficient as to its rayon requirements. Yarn cost is said to be lower than prices on imports.

as it did last November. Most mills deliberated on future prospects and operating schedules before making upward revision in hourly and piece rates. Erwin Mills Co., Durham, granted 8% in its six mills; Burlington, Firestone Textiles, Deering-Milliken interests, Florence Mills, Mills Mill of Reeves Bros., J. P. Stevens & Co. mills, Springs Cotton Mills, and many others announced wage increases. Mills through the Carolinas and Georgia, both union and non-union, granted increases and the movement was spreading through Alabama. The rounds of wage increases started in February, 1946, when 10¢ an hour was granted. This was followed by an 8¢ increase the next August. During 1947 two increases were granted, 10% in February and 9% in November. From a minimum of 55¢ an hour in 1946, wages have been increased to an average minimum of $1.16. Due to the summer break in textile prices and the spotty market, many mills indicated that they would make every attempt to absorb the wage increase.

How to Run an "Open House." Careful planning of details, a touch of showmanship, and plenty of publicity are the keys to success in holding an open house celebration in a textile mill, Pepperell Mfg. Co. has discovered. This firm recently had a four-day open house at its largest plant in Biddeford, Me. It was planned and directed by Lyman Smith, plant general manager; Maurice C. Roux, Biddeford personnel manager; and members of the company's advertising staff in Boston. More than 5,000 men and women visited the plant during the four days, representing about one-third of the adult population of Biddeford and its neighboring city, Saco. The record shows that persons with home addresses from 18 different states, two Canadian provinces, and three foreign countries saw the show. Two weeks prior to the opening, invitations to attend were sent to employees, local merchants, professional people, heads of social and fraternal clubs, school heads, teachers, public officials; and others. The company advertised the open house with several insertions in local daily and weekly newspapers and also in Portland, Me., and Portsmouth, N. H., the nearest cities of substantial size. News publicity was employed both as advance promotion and during the open house period to keep local interest stimulated. The tour started in a hall containing attractive displays of Pepperell products. From the hall, the visitors were taken to a waiting room whence they were escorted in small groups through the plant in a tour which averaged about one hour travel time. Trained guides, mostly supervisors of the Biddeford plant were the escorts. Each mill operation viewed was outlined briefly by the guide, and in addition a large placard told the story in print. At the exit, an hour later, the visitors had a chance to see an ancient hand loom in operation, contrasting with a modern power loom. A packet of booklets illustrating Pepperell history, products, and operations was given to each departing guest as a souvenir.

Revise Cotton-Yarn Tests. A task force of the American Society for Testing Materials met recently at the Institute of Textile Technology, Charlottesville, Va., to revise methods of testing and tolerances for cotton yarns. A group of textile experts, led by H. A. Mereness, head of the Textile Testing Div. of the institute, pooled the results of months of preparatory work. Upon approval and adoption by the society, the methods established will become the standards for the entire textile industry. In addition to Mr. Mereness, the group is composed of W. B. Lane, West Point Mfg. Co., Shawmut, Ala.; H. L. Pratt, Columbia Mills, Columbia, S. C.; W. P. Coefield, Jr., Callaway Mills Co., La-

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Illustrated is the Kiwi Skein Twister

These two machines—the Kiwi Skein Twister and Semi-Automatic Bundling Machine — will increase yarn handling poundage 5 to 10 times and save 20 to 30 per cent in labor in an average eight-hour shift.

This equipment and yarn handling process is adaptable to every requirement and every type of yarn. Big money and labor saving advantages are possible. Fill in coupon below for full information.

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Grange, Ga.; and W. R. Marsden, Bibb Mfg. Co., Columbus, Ga.

India Seeks New Cotton. BOMBAY, India (*McGraw-Hill World News*)—Striving to mitigate the loss of virtually all India's long-staple cotton areas to Pakistan, the Indian Central Cotton Committee and the Ministry of Agriculture are intensifying efforts to develop comparable Indian strains. Best prospect so far is a strain known as "Mysore-American V", developed from CO 2, a Cambodian pure strain. Described as growing well under both irrigation and rain, the new type is said to be characterized by resistance to red-leaf disease and by broad leaves and big bolls which open well. Its staple length is given as 1⅛ in. and its ginning output goes up to 35%. The fiber spins well up to 36s yarn count. Yield is said to be between 400 and 1,350 lb. to the acre of cotton with seeds.

Going Ahead on Ardil. LONDON—(*McGraw-Hill World News*)—Imperial Chemical Industries, Ltd., has laid out ambitious plans for the production of Ardil, the synthetic fiber developed from peanuts, and should, in time, be turning out 20,000,000 lb. of it per year. It is stated that Ardil is best used as a complementary fiber with wool and other fibers. The company has applied for permission to take over a large factory in Dumfries, Scotland, to produce the fiber and it may be two years before quantity production is reached. The peanut residue after oil extraction is composed of protein and carbohydrate. The carbohydrate is pressed into cake for feeding to cattle; from the protein, Ardil is made.

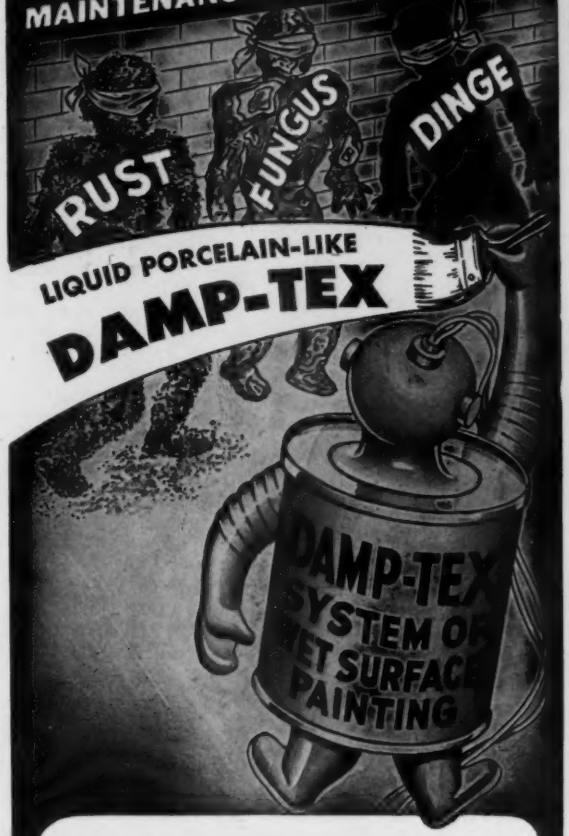
Mechanical Cotton Picking. Latest developments in mechanical cotton harvesting for all sections of the Cotton Belt will be discussed Oct. 15 during the Beltwide cotton-mechanization conference sponsored by the National Cotton Council at the Lubbock Agricultural Experiment Substation, Lubbock, Tex. Leonard Neighbors, chief engineer of the John Deere Spreader Works, Moline, Ill., will describe progress in mechanical stripping of cotton, while R. C. Archer, vice president of International Harvester Co., Chicago, will detail improvements and progress in mechanical cotton picking.

Textile Safety Record Improves. Textile manufacturing has moved up from 14th to 8th position in the National Safety Council's latest listing of safety ratings for the country's 40 major industries. Figures just released by the Statistical Div. of the council show that in 1947 the textile industry had only 8.83 disabling injuries per 1,000,000 man-hours, compared with an average of 13.26 for all industries. In 1946, the council placed the textile industry in 14th position in its listing, with 11.44 disabling injuries per 1,000,000 working hours against an all-industries average of 14.16. Rating the severity of industrial accidents, the council's compilation disclosed a rate of 1.23 for all industry and 0.54 for the textile industry, compared respectively with 1.28 and 0.78 for 1946.

Ramie Investigated by Johns-Manville. Ramie fiber and fabrics offer interesting potentialities to the textile industry, according to a study by Harold T. Coss, of Johns-Manville Corp., and James L. Taylor, professor of textile engineering, Georgia Institute of Technology. In a research paper on "Ramie Today," Mr. Coss and Dr. Taylor describe in some detail the results of experiments conducted in the Georgia Tech Engineering Experiment Station, the A. French Textile School at Georgia Tech, and the Johns-Manville Research Center. The authors feel that there is little likelihood that ramie will materially replace cotton, even when handled as stapled fiber on ordinary cotton mill equipment. However, "it is possible to make fabrics from staple ramie that would equal or even out-perform line flax fabrics (linen) in general wear resistance, and would compare favorably with linen in appearance and hand. Ramie is especially suitable for use in high-grade specialty fabrics, where a premium in appearance or serviceability is attractive and desirable."

Ix Educational Fund. Frank Ix & Sons, Inc., have announced the establishment and availability of an educational loan fund for the benefit of employees and their children and designed to provide financial assistance to those needing it who wish to pursue their educational training beyond the high-school level. The fund, which was established in accordance with the wishes of Mrs. Catherine LeBert deBar Ix, who died in the early part of this year, is dedicated to her memory as a co-founder, with Frank Ix, Sr., of the company. The plan is to be administered by the Ix Foundation, with Frank Ix, Sr., and his five sons, acting as trustees. Loans of $500 a year for as long as 6 yr. are available.

KILLS PLANT MAINTENANCE ENEMIES



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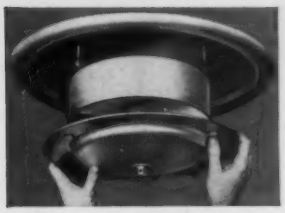
Cuts installation and maintenance time

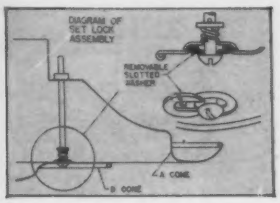
Instant Cleaning and Inspection: With the new Type HD set-lock assembly, the inner element of the Kno-Draft Adjustable Air Diffusers can be quickly removed and reinstalled while the diffuser is in place without affecting its adjustment.

1. Remove cover cone (if used).

2. Press cone—slip out washers.



3. Remove inner element.



Now standard equipment.

It takes but a minute—requires no tools

The "B" cone or inner element of the diffuser is secured to the combined suspension and adjustment screws by a springloaded catch which is kept in compression by a slotted washer. The holes in "B" cone pass over the bolt heads. Just press up on cone "B" and insert or remove the slotted washers.

FREE HELPFUL LITERATURE

☐ **Bulletin K-21:** Details on Type HD Set-Lock Assembly.

☐ **New handbook on air diffusion:** Shows how to create "custom-made" air patterns and eliminate drafts.

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Useful Accessories FOR TEXTILE MILLS

Cold Paint Stripper

An improved paint stripper which removes paints, lacquers, enamels, and other coatings without use of heat has been announced by Allied Finishing Specialties Co., 2639 West Grand Ave., Chicago, Ill. The product is noninflammable and requires no neutralizing action other than water. It is claimed to be non-injurious to cotton, wool, or silk fabrics and to most metals and their alloys.

Autographic Registers

A completely new line of autographic registers which refold bottom copies or issue all copies of receipts has been introduced by United Autographic Register Co., Inc., 5000 South California Ave., Chicago 32, Ill. Control through serially numbered forms and protection through locked-in file copies are listed as advantages of the bookkeeping machines.

Friction Clutches

A new line of friction clutches which embody the over-center design has been announced by Morse Chain Co., 7601 Central Ave., Detroit 8, Mich. The toggle-type clutches are available in capacities ranging from 0.5 hp. to 1.7 hp. per 100 rpm. A wide range of industrial applications is effected with two basic designs, plus a selection of driving cups.

Interchangeable Bronze Gate Valves

A selection of 150-lb. S.P. bronze gate valves designed to facilitate easy interchanging has been announced by The Lunkenheimer Co., Cincinnati 14, Ohio. The new valves are made in three types: double-wedge disk with rising stem, solid-wedge disk with rising stem, and single-wedge disk with non-rising stem. All valves feature the taper seat and require only an interchange of trimmings to convert from one type to another.

Air Starters for Engines

A new line of air starters for gas, gasoline, or diesel engines has been introduced by Gardner-Denver Co., Quincy, Ill. Extremely high torque and elimination of battery costs are claimed as advantages. The starters come in five sizes and develop from 3 to 15 hp. on 100 lb. air pressure. A 5-cylinder radial design is featured.

Eye-Sweep

An "eye-sweep" for removal of foreign bodies from the eye has been announced by General Scientific Equipment Co., 2700 North Huntingdon St., Philadelphia 32, Pa. One end is fitted with a magnet for removing steel splinters, while the other is fitted with a flexible loop for removing cinders, dust, and other particles. Sterilization is said not to affect the magnetic properties.

Single-Phase Induction Motors

Production of single-phase, integral-horsepower motors—1 to 7.5 hp.—has increased sufficiently to make these motors available for immediate delivery, according to General Electric Co., Schenectady 5, N. Y. The motors are best suited for small plants where only single-phase power is supplied.

Gasket for Coupling Glass or Porcelain-Lined Pipe

A new gasket which features a special buffer ridge projecting from a solid-rubber wall has been announced by Drinkwater, Inc., Spring and Madison Sts., Waukegan, Ill. Glass- or porcelain-lined-pipe ends are cushioned against shock by the buffer ridge. No grooving or threading of pipe is necessary. The couplings fit any plain-end pipe of standard size and are said to withstand 300 lb. per sq. in. pressure.

Overhead Guard for Power Fork Trucks

A heavy-duty, canopy-type overhead guard for power fork trucks has been developed by Lewis-Shepard Products, Inc., 276 Walnut St., Watertown 72, Mass. The detachable guard is designed to protect the operator from falling objects alongside the route of travel as well as those items being carried by the truck. Constructed of tubular arc-welded steel, the guard is supported at four points.

Nylon-Coated Cable

Wirelon, a nylon-coated wire rope, has been introduced by Rochester Ropes, Inc., Culpepper, Va. The coating on the new product is solid nylon, and the cable is available in diameters ranging from $\frac{3}{32}$ in. to 1 in. or greater. Three types of the rope are being made—coated strands, coated exterior, and a combination of the two. ASTM tests of the coating alone show a tensile strength of 4,930 lb. per sq. in. at 77° F. Elongation of the coating is 410% at that temperature.

Belt Slitter

A device designed to slit belting to any desired width has been announced by Beltuf Belting Co., 3773 Las Flores Court, Los Angeles 34, Calif. The belt slitter is attached to the end of a table or bench and can be operated by one man. A standard razor blade, properly reinforced, provides the cutting edge. Belting up to 24 in. wide and $\frac{3}{8}$ in. thick can be slit with the standard model.

LUREX*

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- **ABSOLUTELY NON-TARNISHABLE**—retains brilliance forever when instructions are properly followed.
- **ODORLESS**—no unpleasant metal or tarnish odors can occur.
- **EASY TO LAUNDER AND DRYCLEAN**—by the same methods used for rayon.
- **SOFT AND PLIABLE**—in finished fabric Lurex has good hand—is not harsh or abrasive.
- **LIGHT IN WEIGHT**—provides metal luxury look without customary weight.

These glamorous gold, silver and copper yarns can be used and sold with confidence. Lurex overcomes all of the limitations that formerly restricted the use of metal in *wide loom* fabrics.

Designers can now add to their color palettes the ageless rich tones of metal to create appealing and practical fabrics.

Lurex is available to qualified mills by itself and in a wide variety of core yarns and twists. It can be woven or knitted with all natural and synthetic fibres.

INSTRUCTION TAGS

Assure customers that your fabrics contain non-tarnishable and launderable Lurex. Ask for identification and instruction tags for use by end product manufacturers.

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The Dobeckmun Company, Yarn Division, Cleveland 1, Ohio.
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Send for this NEW Bulletin

Mount Hope
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EXPANDER
FOR PRODUCING MAXIMUM WIDTH AND ELIMINATING WRINKLES ON TEXTILE FABRICS AND PLASTIC FILMS, AND FOR EVENLY DISTRIBUTING TIRE CORD WARPS
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HOW TO USE MOUNT HOPE FREE-WHEELING EXPANDER
MT. HOPE MACHINERY CO.

Here are some of the subjects covered in this new 6-page bulletin: —

Mount Hope Sealed End Expander
Mount Hope Batcher Expander
(Counterweight and Spring Type)
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All Mount Hope Expanders are "free-wheeling," i.e. with ball bearing mounted Neoprene sleeves. Minimum tension on the warp, which is pulled over the sleeve, greatly increases the spreading effect of the expander and increases the life of the Neoprene surface.

Other advantages are explained in Bulletin E. C. Send for your copy today.

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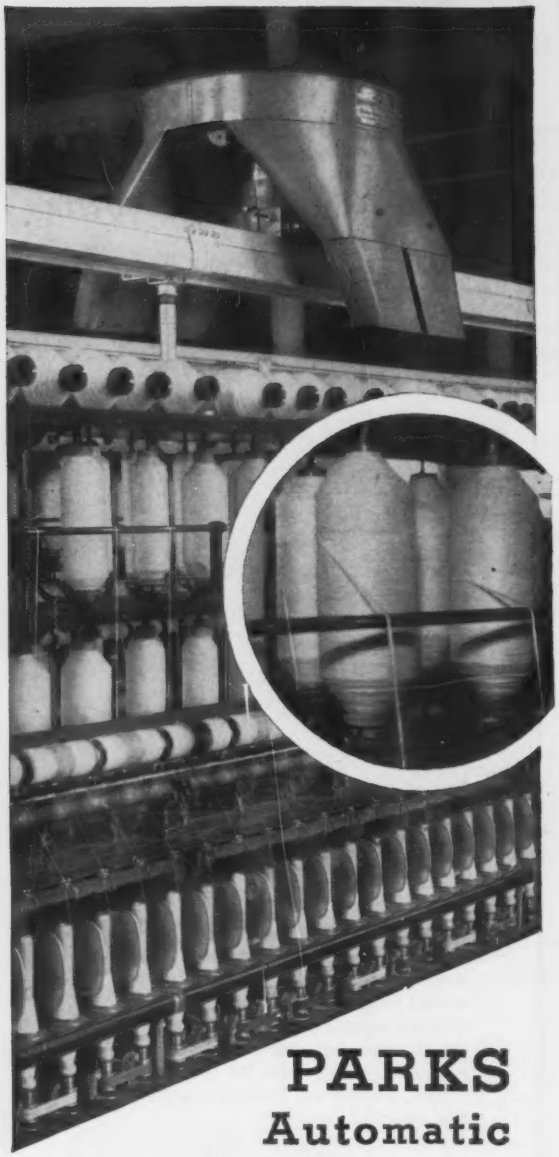
Mount Hope Free-Wheeling EXPANDER



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Automatic
Traveling Cleaners

For spinning, winding, warping, spooling, and twisting. Units travel above the machines and blow them off at regularly fixed periods.

RESULT: Operatives tend more machines with less effort. Investment in Cleaners soon saved by reduced expense of cleaning, by increased production, and by improved quality of product. (Write for details.)

Parks-Cramer Company

Fitchburg, Mass. Charlotte, N. C.

NEWS ABOUT Suppliers

Oscar Kohorn & Co., Ltd., New York, has leased for immediate occupancy the new building at 42-40 Crescent St., Long Island City. The Kohorn company will use the new building as a model plant to demonstrate rayon machinery and equipment developed by the company.

Steel Heddle Mfg. Co., Greenville, S. C., plans the construction of a new plant which will more than double its production. The new $750,000 plant will be completed in October.

Durant Mfg. Co., Milwaukee, Wis., has opened a new sales office at 1105 Commonwealth Ave., Boston 15, Mass., under the management of James K. McGinley, who has had several years' association with the home office in Milwaukee.

Hatch Textile Research, New York, N. Y.—September marked the 40th anniversary of Herbert H. Hatch's association with the textile field. His father had established an adjusting service in 1880, which Mr. Hatch joined in 1908. In 1926, he opened his present laboratory to serve manufacturers, converters, and retailers.

Owens-Corning Fiberglas Corp., Toledo, Ohio, has appointed Stephen J. Daly as advertising manager. He was formerly special assistant to the director of advertising, E. I. du Pont de Nemours & Co., Inc. Mr. Daly will manage Owens-Corning Fiberglas advertising activities under the direction of E. C. Ames, director of advertising.

Pennsylvania Spool & Equipment Co., Allentown, Pa., has established a new department for the manufacture of fiberhead spools, with plant in Allentown. Firm is developing a high-speed spool for nylon.

Clifton Yarn Mills, Inc., Clifton Heights, Pa., has appointed Thomas F. Haigh as sales representative for New York and New Jersey. He will be stationed in New York, Hotel Gramercy Park, Suite 416. He has had nearly 20 yr. of textile experience.

National Starch Products, Inc., New York, has appointed Dr. Carlyle G. Caldwell as research director. He has been a member of the research staff since 1940. He will continue to direct the development in Amioca, a waxy corn starch, as well as the company's starch, synthetic polymer, and adhesives research program.

Minneapolis-Honeywell Regulator Co. and its industrial division, **Brown Instrument Co.,** Minneapolis and Philadelphia, has appointed George D. Maves as manager of the Boston branch. He was formerly Mountain States regional manager for the company with headquarters in Denver. Mr. Maves succeeds Warren Jennings, vice president in charge

MINNEAPOLIS-HONEYWELL REGULATOR CO. and its industrial division, BROWN INSTRUMENT CO., brought together recently at Minneapolis the ten top regional winners of the "Time-to-Climb" sales contest. The grand prize of a two weeks' Caribbean cruise was won by Stan Furber, St. Paul-Minneapolis (sixth from left). Left to right are Ed Dill, Portland, Ore.; Hugh Braid, Toronto; Ed Klein, Philadelphia; Jack Tracy, Denver; Karl Selden, Charlotte, N. C., who led the entire group in sales; Mr. Furber; Jim Powell, Houston; Jim Kelly, Pittsburgh; Preston Tack, Seattle; Ed Clucas, St. Louis.

STAINLESS STEEL

SMALL WARE

FOR THE DYEHOUSE

Ruggedly Built for SEVERE SERVICE

Welded, reinforced construction gives Blickman small ware extra durability to withstand hard daily use in the busy dyehouse. For sizes and specifications send for our small ware circular.

STAINLESS STEEL PAILS
Built to take a beating. Welded construction for extra strength. Round corners for easy, thorough cleaning. Made of #18 gauge stainless steel for corrosion resistance. Ears are formed under rolled rim of the pail and transmit part of the load to the rim. Capacity to 20 quarts. Write for Bulletin 7028.

STAINLESS STEEL BUCKETS
Easy to clean. For extra strength quarter inch thick reinforcing bands are welded at top and bottom. Handles of ½ inch diameter mild steel rod are welded to upper reinforcing band. Round corner bottom speeds cleaning. Built of heavy gauge stainless steel. Capacity to 100 gallons. Send for Bulletin 7029.

STAINLESS STEEL DIPPERS
Made to withstand rough handling. Hemispherical bowl of #16 gauge 18-8 stainless steel with #16 gauge stainless tapered handle-socket welded on. Capacities 1 pint to 4 quarts. Handle of 4 quart size reinforced. Send for Bulletin 7030.

Write for further information

S. BLICKMAN, INC. 410 GREGORY AVE. WEEHAWKEN, N. J.

Manufacturers of stainless steel textile equipment, dye boxes, linings, cylinders, dry cans, rolls, hoods, tanks

There's a

PRODUCTIMETER

for every

TEXTILE PROCESS

OUR SINCERE THANKS
to the enthusiastic mill men who visited our booth at the Southern Textile Exposition

Models to Serve Every Mill Need

PICK COUNTERS . . . 3, 2 and single shift.
HANK COUNTERS . . . 3, 2 and single shift.
YARDAGE COUNTERS . . . high-speed worm drive with double measuring wheels; oilless bearings, single wheel; or light duty for narrow fabrics.
ROTARY COUNTERS . . . geared to measure directly from roll.
PREDETERMINED COUNTERS for preset runs and totalizing in one counter. Rotary predetermined now available with subtracting feature.
RESETTING ELECTRIC COUNTERS . . . operated by contactors or photo-relays.

Now . . . for the first time

Sensational New

PRINTING COUNTERS

in Stroke and Rotary Styles

give accurate, legible printed figures on job cards, for time keeping and cost department use.

Write for descriptive literature!

DURANT MANUFACTURING COMPANY

1931 N. Bullum Street, Milwaukee 1, Wisconsin
131 Orange Street, Providence 3, R. I.

E *is for Efficiency*

E *is for Economy*

E *is for Easy to use*

E *is for Easy on the Cloth*

E

MEANS

DESIZE with EXSIZE!

WRITE FOR FREE BOOKLET

PABST BREWING CO.

PABST SALES COMPANY

CHICAGO, ILLINOIS

Warehouses at Jersey City, and Textile Warehouse Company, Greenville, S. C.

Copr. 1948 Pabst Brewing Company Milwaukee, Wisconsin

NEWS ABOUT *Suppliers* (Continued)

of the Boston office, who will continue as vice president available for consultation in the entire Eastern region. Succeeding Mr. Maves in Denver is Edwin A. Thompson, who has been promoted from the Peoria branch managership. Robert H. Jacobs has been named Peoria manager. A new department to supervise and coordinate the advertising, merchandising, and sales promotion activities of Minneapolis-Honeywell is headed by John R. Bergan as merchandising manager. Chandler Murphy has been made advertising manager and John A. Young sales promotion manager. Mr. Murphy succeeds William B. Walrath, who has resigned to join the Chicago advertising staff of Fortune magazine.

Sandoz Chemical Works, New York, N. Y., has established new office and warehouse facilities in Chicago at 552 W. Lake St. Shipments to customers in the Mid-West will henceforth be made directly from the Chicago warehouse, with a consequent saving in time.

Texize Chemicals, Inc., Greenville, S. C., has appointed J. O. (Red) Garner as sales manager of its household-products division. He was previously Southern district manager in Atlanta, Ga., for Colonial Stores, Inc.

A. E. Staley Mfg. Co., Decatur, Ill., has promoted W. R. Boyer, formerly assistant treasurer, to comptroller. The former comptroller, R. C. Scherer, continues as secretary, director, and member of the executive committee, but takes on some of the administrative tasks formerly handled by other officers.

Johnson Service Co., Milwaukee, Wis., has opened a branch office in Charlotte, N. C. E. D. Streng, formerly of the Greensboro, N. C., branch, has been promoted to sales engineer in charge of the new branch. Harry Hoffman, of Greensboro, N. C., is the Virginia-Carolina area manager. The company now has 35 branch offices in the United States.

Mathieson Chemical Corp., New York, N. Y., has named Frank W. Thomas, Jr., as assistant general manager of sales. He has been with Mathieson since 1938, with 2 yr. out for service in the Navy.

F. J. (JIM) HOOD has been elected president of Ansul Chemical Co., Marinette, Wis. He succeeds Harvey V. Higley, who has been named chairman of the board of directors. Mr. Hood joined Ansul's California office in 1928. He worked in sales for 8 yr., returning to Marinette in 1936. In 1938 he was elected secretary and treasurer of the company. He was promoted to vice president in 1945. R. C. Hood has been elected vice president; H. C. Higley, secretary; J. F. Asell, treasurer; S. R. Holmquist, comptroller and assistant treasurer.

E. I. du Pont de Nemours & Co., Wilmington, Del., reports that five of its plants, employing a total of 10,450 persons, have established records of working more than 10,000,000 man-hours each without a single lost-time accident as of the end of July. Among the five plants, the nylon plant at Martinsville, Va., led with 15,493,000 man-hours. The Seaford, Del., nylon plant was second with 13,093,200. The other three were the Belle, W. Va., plant of the ammonia dept., 10,969,500; the Doyle Works of the plastics dept. at Leominster, Mass., 10,296,400; and the Parlin, N. J., Works of the Fabrics & Finishes Dept., 10,238,300.

Tennessee Eastman Corp., Chemical Sales Development Sect., Kingsport, Tenn., has added Robert W. Miller and Ralph W. Bentz to its sales service and application-laboratory staff. Holston Trading Corp. of Cuba, Santiago de Cuba, has been named exclusive sales representative and distributor of Tennessee Eastman chemicals and dyestuffs in that country. Holston is a subsidiary of Eastman Kodak Co.

Monsanto Chemical Co., St. Louis, Mo., has appointed Donald B. McCammond, of Pembroke, Mass., as assistant

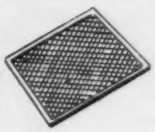
Puts an end to such humidifying troubles as:

X	persistent "slime odors"
X	slime clogging spray nozzles
X	clogged overflow drains and return lines
X	algae, slime sprays blowing over equipment

OAKITE SANITIZER No. 1 the new quaternary-ammonium germicide will help eliminate these and other humidifier troubles. Simply add ¼ to ½ pint of this powerful germicide-disinfectant to each 1,000 gal. of system water. Its potent algaecidal action keeps water clean and sweet-smelling. Solutions are non-corrosive, non-staining. For further details write for Report No. A-8558. Free, without obligation.

Descaling humidifier sprays: Try Oakite Compound No. 32, the scientifically inhibited acidic descalant, for fast and complete removal of lime scale from sprays, nozzles, tanks, return lines.

Desliming wire screens: Before replacing screens in humidifier tanks, soak them in hot solution of quick-penetrating Oakite Composition No. 22. Cuts through slime and dirt without harming underlying metal. Use its solutions, too, to circulate through lines and tanks.



Do you have a copy of the Oakite "66" Digest? Describes 66 ways to cut maintenance cleaning costs in your mill. Free, without obligation. Write today!

OAKITE PRODUCTS, INC., 42 Thames St., NEW YORK 6, N. Y.
Technical Service Representatives in Principal Cities of U. S. & Canada

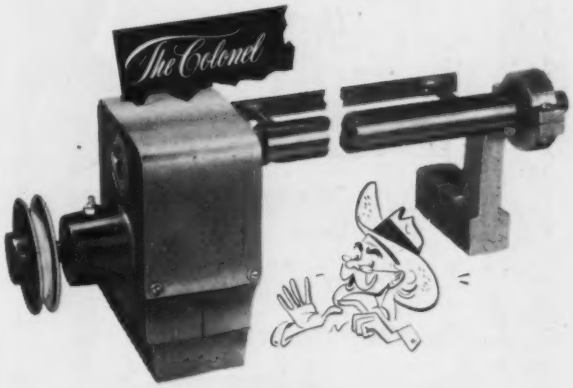
OAKITE

Specialized Industrial Cleaning
MATERIALS • METHODS • SERVICE

Great News!

"The Colonel" Comb Box Gives You a LONGER Stroke!

"The Colonel" has a comb stroke of 1⅜" . . . this longer stroke will permit a lower running speed to handle the web. This improved operating efficiency in your card room will mean the elimination of costly shut downs for your cards. "The Colonel" uses no oil; grease reservoirs in the hub and throw arm hold months of operating supply. Ball bearings are sealed against the infiltration of dust and lint, giving you continuous, free even running.



Check these FIVE Points!

- Uses no oil . . . alemite occasionally with alemite gun.
- Equipped with ball-bearing tailstock.
- Reduced waste from oily selvages—box will not sling oil.
- Reversible adapter plate to adapt box to right or left hand cards.
- Sealed bearings for free even motion.

"The Colonel is made for all standard cotton and wool cards. Comb boxes for other cards made to order on request.

For Further Information Write, Wire or Phone

ODOM
Machine Manufacturing Corp.
Roswell, Georgia

WILLIAM Whitman COMPANY, INC.

261 Fifth Avenue, New York 16, N. Y.

BOSTON 78 Chauncy Street | CHARLOTTE Commercial Bank Building | PHILADELPHIA 1420 Walnut Street | CHICAGO 222 West Adams Street

NEWS ABOUT *Suppliers* (Continued)

REPUBLIC STEEL CORP. has greatly increased its facilities for cold-reducing and finishing of stainless steel in the plant shown above. Republic erected these buildings at Massillon, Ohio, and has used them as an armor-plate plant. They were virtually reconstructed before the stainless steel-processing machinery was installed. Plant is known as Enduro No. 2.

to the director of industrial and public relations. James G. Zack, divisional director of public relations for Monsanto's Plastics Div. at **Springfield,** Mass., has been moved to St. Louis to supervise industrial relations publications for the department. In his new assignment, **Mr. McCammond** will supervise the Eastern operations of the department. He will have direct charge of activities of the company's public relations offices in Boston and Springfield, Mass., and in New York. **Monsanto** will shortly move its Lockport, N. Y., plant to the company's Plastics Div. at Springfield, Mass. Key personnel will also be transferred, but the Meritt-Monsanto operations will remain in Lockport. William F. Roberts, formerly with the Plastics Div. in Springfield, Mass., has been transferred to Los Angeles, Calif., as branch manager in charge of plastics. James B. Irwin, Jr., has been named assistant to the president of Monsanto, William M. Rand. Jonathan H. Sprague, Jr., of Boston, has been appointed as a technical representative of Monsanto in Washington, D. C., on the staff of Philip Singleton, assistant to the president, in charge of the company's Washington Bureau.

Devoe & Raynolds Co., Inc., New York, N. Y., has appointed James L. Febre, formerly Indiana representative to be Chicago branch manager. He succeeds William Miller, former naval officer, who was recently recalled to active service.

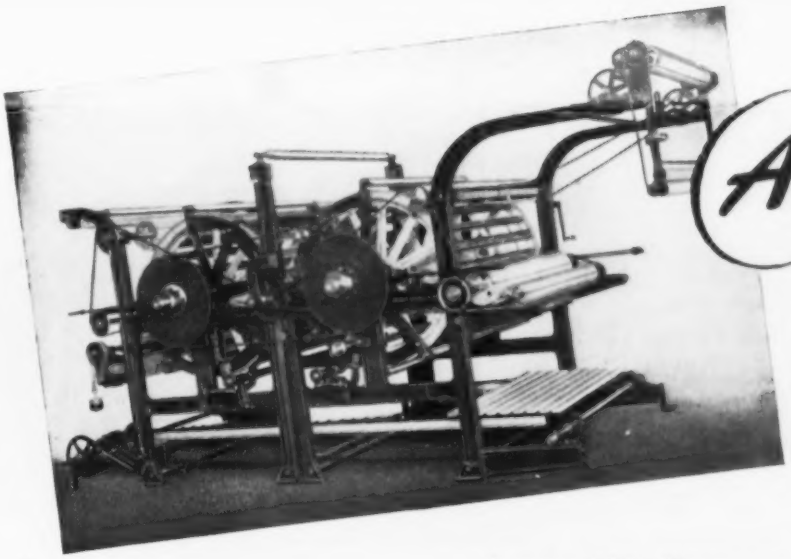
Taylor Forge & Pipe Works, Chicago, Ill., has added Robert M. Vilsack to its sales department, reporting to the main plant at Chicago, Ill. Mr. Vilsack was recently associated with M. W. Kellogg Co., New York, in engineering and sales work.

Amalgamated Chemical Corp., Philadelphia, has named Hillary Robinette, Jr., as research director to head up an expanded consulting service for the textile industry. Mr. Robinette served during the war with the Textile Section of the Research & Developing Branch, Military Planning Div., Office of the Quartermaster General and had many years experience with textile chemicals before the war.

Allis-Chalmers Mfg. Co., Milwaukee, Wis., has named T. J. Hodan as manager of the company's water-conditioning department. He succeeds W. L. Manly, who has been appointed manager of Allis-Chalmers dealer sales, succeeding in turn W. A. Meyer, who has been named assistant manager of the Texrope-Drive Dept.

Koppers Co., Pittsburgh, Pa., has set up a new Chemical Section under its Engineering & Construction Div. to supervise and coordinate engineering and construction work on contracts secured for the erection of plants to produce oxygen, synthetic fuels, and certain types of chemicals. T. M. Osborne, who has been project manager on Koppers' contract to build a $4,500,000 synthetic liquid fuels plant for the government at Louisiana, Mo., heads the section. Sam C. Whitehouse, assistant manager of the Kobuta, Pa., chemical plant of Koppers Co., has been named export manager of the Chemical Div.

General Electric Co., Bridgeport, Conn., has formed a construction-materials depart



A Rich Luster

For Your
BROADCLOTHS
KERSEYS
and
FACE FINISHED GOODS

Large 42" diameter cylinders on Gessner's Double Cylinder Slat Gig give four contacts to the cloth, the most efficient size to keep the teasles properly moist for ideal finishing. In many installations, from three to eight gigs are run in tandem to save gigging time and cloth handling. Among many other improvements, Gessner has greatly simplified changing of slats. We would like to tell you more.

DAVID GESSNER COMPANY Worcester, Mass.

IMPROVED CLOTH FINISHING MACHINERY

BUYING Bur-r-rlap?

Weel, it's wise and thrifty to deal with folks who *really know* bur-r-rlap*... folks you know you can depend on. So for whatever grade you need... *look to Bemis!*

Anither important point . . . There's a Bemis plant verra near you for better sairvice wherever you are.

*Each year Bemis determines the grading of burlap produced by the Indian jute mills. Bemis' grading is accepted by producers and users alike as the standard for burlap quality. This acceptance as the "supreme court" of the industry comes from Bemis' long and unequalled experience as importer, converter and distributor of burlap.

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BEMIS BRO BAG COMPANY

BARNES SERVICE
Consulting Engineers
TO THE TEXTILE INDUSTRY FOR OVER ⅓ CENTURY

Surveys—Reorganizations—New Plant Developments for Cotton, Wool, and Synthetic Yarn and Cloth Processing, Bleaching, Dyeing, Printing and Finishing.

★ Plant Appraisals ★ Mechanical and Operating Surveys—New Methods ★ Scheduling and Planning ★ Work Load Studies, Job Analysis and Evaluation, with Incentive Plans ★ Standard Cost Installations ★ Cost Control Methods

Labormeter Burden-meter Waste-meter

SERVING THE TEXTILE INDUSTRY OF THE WORLD — BT INC. — FOR OVER A THIRD OF A CENTURY

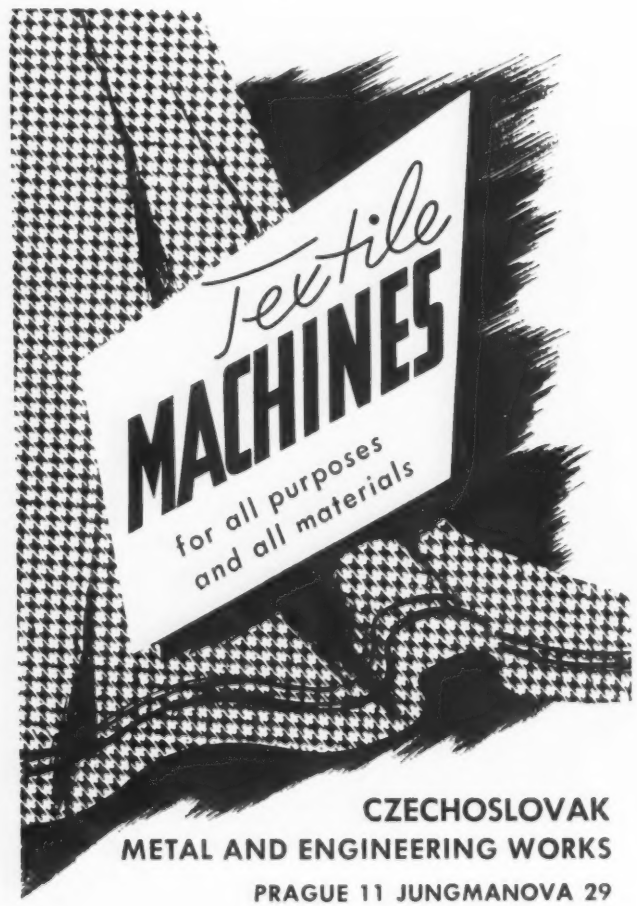
BARNES TEXTILE ASSOCIATES, Inc.
10 HIGH STREET, BOSTON 10, MASS.
318 MONTGOMERY BLDG., SPARTANBURG, S. C.

The following is a typical letter written by a client, indicating the range and quality of service rendered by the Barnes engineers:

"We have employed Barnes Textile Associates, Inc., regularly since 1928. During this period we have consulted them on an infinite variety of problems having to do with the efficient operation of a textile plant.

"They have installed our cost systems, labormeters, carried out time and operating studies, worked with us in labor conferences, installed quality controls, advised us with regard to merchandising, assisted us in the purchase of machinery, laid out one completely modern plant which is in operation today, employing 2,300 employees, and have submitted plans for an additional plant and modern dye house.

"We consider them the outstanding textile engineers in the country today, both with regard to ability and integrity, and, during our nineteen years of close contact with this firm, their services have been invaluable."



NEWS ABOUT *Suppliers* (Continued)

ment in charge of C. D. Hepler as general manager. Appointed to Mr. Hepler's staff are A. W. Gilmore, formerly manager of the wire and cable division, who becomes manager of marketing; James H. Crawford, manager of sales, who becomes sales consultant; Edmund J. Harrington, manufacturing manager of the General Electric Affiliated Mfg. Cos. Dept., New York, who becomes manager of manufacturing of the new department; and C. Howard Black, works engineer for the company's Philadelphia plant, who becomes manager of engineering. Theodore D. Foster, formerly manager of sales of the accessory-equipment and wiring-device divisions, is in charge of the accessory-equipment division, and Joseph J. Lengyel, formerly manager of sales of the tungar and metallic-rectifier division, heads the wiring-device division.

Bailey Meter Co., Cleveland, Ohio, has appointed G. L. Harman, Jr., as manager of the company's Milwaukee branch office. Mr. Harman replaces R. V. Knapp, who resigned to accept a position with the Mosinee Paper Mills Co., Inc.

Wheelco Instruments Co. has opened a new office at 138 East Becher St., Milwaukee 7, Wis. M. A. Embertson, who was formerly with the Chicago office as sales engineer, is in charge of the new Wisconsin office.

John B. Astell Co., New York, N. Y. reports that Richard J. Sheridan has retired as its president, and that his interests in the company have been acquired by John B. Astell, who now becomes president.

Lincoln Engineering Co., St. Louis, Mo., announces that in addition to continuing as manager of the Lincoln company's sales branch in Detroit, Morgan B. Lawton has been appointed to serve also as manager of Lincoln Lubricating Systems, Inc., Cleveland.

C. M. Kemp Mfg. Co., Baltimore, Md., reports the retirement of E. B. Parsons as its San Francisco area representative after 30 yr. with the company. He is succeeded by E. A. Wilcox Co., 277 Seventh St., San Francisco, with a branch office in Seattle.

***ERNEST W. BRENNER** has been named to head the New York sales office of Florence Thread Co., Inc., Riverside, N. J., which was recently opened at 55 West 42nd St. For 4 yr. Brenner was student apprentice, Forstmann Woolen Co.; for 11 yr. technician and dyestuff salesman, Ciba Co. The New York office of Florence Thread Co. will cover metropolitan New York City and Northern New Jersey.*

The Borden Co., New York, will broaden its activities in the soybean industry, modernizing its Waterloo, Iowa, oil and meal mill for that purpose at an estimated cost of $1,250,000.

Rapids-Standard Co., Inc., Grand Rapids, Mich., reports that it has adopted the term "RapiStan" as a trademark to designate all equipment manufactured in its line including gravity and power belt conveyors, hand trucks, floor trucks, and casters.

Gardner-Denver Co., Quincy, Ill., has completed a new 16-mm. film in color, with sound, featuring heavy rock excavation on four construction projects. Entitled "Man Against Rock," this 33-minute film is educational in nature and carries no advertising.

Chain Belt Co., Milwaukee, Wis., has opened a new district sales office at 2900 West Clay St., Richmond 21, Va. Fred W. Taylor is district manager of this office.

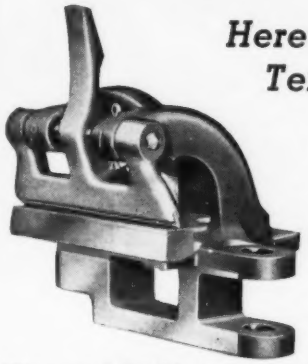
Standard Register Co., Dayton, Ohio, has developed two sound-slide films. "Records That Control Quality Control" and a companion film "A Game of Chance" are combined in a 35-minute clinic presentation on quality-control records in manufacturing, giving a case history on how a user of a Standard Register system of record control reduced scrap rejects 23%.

PARKINSON

TENTER CLIPS

PARKINSON

TENTER SERVICE



Here Is An Unbeatable Tenter Combination!

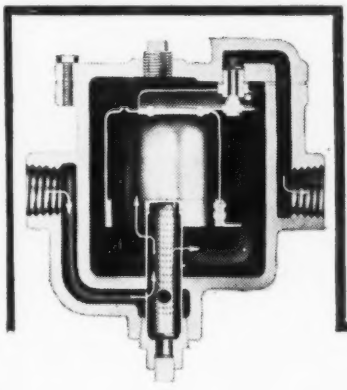
Parkinson clips and links can be furnished with sprockets, idlers or openers for adaptation to any frame.

Parkinson repair service covers all makes of Tenter Clips and Parkinson's tenter survey service will give you without obligation an accurate picture of exactly what needs to be done to make your tenter operations 100% efficient!

Ask for special Parkinson Tenter Clip Folder Now!

EDWARD PARKINSON MFG. CO., INC.

387 Charles Street — Providence 4, R. I.



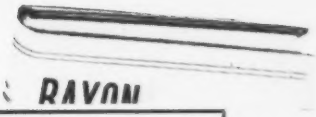
SARCO *Inverted Bucket Steam* **TRAPS**

Sarco Bucket Traps handle large volumes of condensate very rapidly, and can be built for the highest commercial steam pressures. The inverted bucket operates a simple valve mechanism of great power. Valve is protected by a Sarco Strainer built right into the trap. Can be equipped with thermostatic air by-pass for rapid and complete elimination of air and gas.

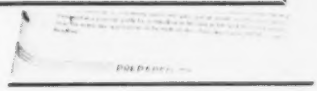
Standard sizes ½ to 2 in., 10 to 150 lbs. and 10 to 250 lbs. Forged steel types for pressures to 900 lbs. and for superheat. Catalog 350.

209

SARCO SAVES STEAM — SARCO COMPANY, INC. Empire State Bldg., New York 1, N.Y. SARCO CANADA, LTD., TORONTO 5, ONTARIO



How to PROCESS RAYON on standard mill machinery



This new handbook spotlights practical methods in spinning—throwing—weaving—knitting—dyeing and finishing

Here are detailed, step-by-step explanations showing you how to handle rayon *on existing or available commercial machinery*. It brings you the most successful methods—the most advanced of accepted practices—in the technologies of all divisions of the textile industry: cotton—woolen—worsted—synthetic—knitting—finishing. It shows you how to make the most practical and efficient use of machines you already have for rayon processing. The material is authoritative and up-to-date. Each section of the handbook was prepared by outstanding technicians and specialists in a particular branch of textile manufacture. Photographs, drawings, diagrams, graphs and tables make it a down-to-earth, easy-to-follow guide.

RAYON TECHNOLOGY

Handbook for Textile Mills

Prepared by the Textile Research Department of AMERICAN VISCOSE CORPORATION

260 *pages*, 81 *illustrations*, $3.75

This handbook makes available to the textile industry a vast store of technical information on how rayon can best be used on equipment developed to handle natural fibers . . . and on the ever-increasing quantity of equipment now available for handling staple or continuous-filament rayon. It provides mill men with the best methods of processing rayon into yarn, greige goods and finished fabrics. It covers all phases of textile manufacture, including spinning of rayon staple by the three principal systems, and throwing, weaving, knitting, dyeing, and finishing.

Check these chapter headings:

1. Rayon Staple on the Cotton System
2. Rayon Staple on the Worsted System
3. Rayon Staple on the Woolen System
4. Rayon from Yarn to Fabric
5. Standard Rayon Fabric Constructions
6. Rayon in Knitting Mills
7. Rayon Dyeing and Finishing

McGRAW-HILL FREE EXAMINATION COUPON

McGraw-Hill Book Co., Inc., 330 W. 42nd St., NYC 18

Send me American Viscose Corp. RAYON TECHNOLOGY for 10 days' examination on approval. In 10 days I will send $3.75, plus a few cents postage, or return the book postpaid.*

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Address .....

City ..... Zone ..... State .....

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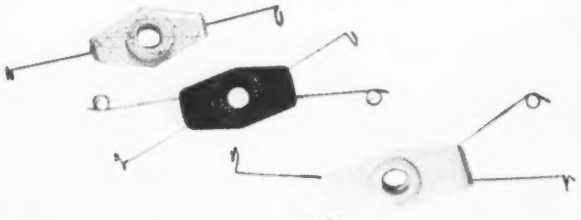
Position ..... TW 9-48

*SAVE: We pay mailing costs if you send cash with order. Same return privilege.

MOLDED ONE PIECE



NYLON
FLYER BLOCKS

NEED NO LUBRICATION
RUN SMOOTHLY — NO BINDING

These blocks are molded in one piece with bore molded in. This does away with loose parts and insures a smooth finish overall and a uniform hole to fit spindle. Correct balance gives better yarn because of uniform tension. Blocks are lighter than other blocks of comparable size. May be rewired without tools or jigs in less time than other types. Made in 3 types. Choice of two colors, black or white. Rust proof, washable. Minimum breakage because of construction and material. Have successfully withstood 20 months mill test.

M. J. McHALE CO.

136 W. Market St., Scranton 8, Pa.

For Maintained Shrinkage—
Perfect Finish—Long Life

HUYCK

→COMPRESSIVE SHRINKAGE←

BLANKETS

for use in shrinking fabrics to the *"Sanforized"* standard by the Compressive Shrinkage process, are daily meeting the most exacting requirements of finishers throughout the industry. From the lightest and finest fabric to the heaviest denim, there is a special Huyck blanket to meet your specific needs.

Huyck blankets retain high shrinkage and finish properties to the last.

PALMER BLANKETS—also available for your special requirements.

KENWOOD WOOL PRODUCTS

Write for information
or see our representative

F. C. HUYCK & SONS
KENWOOD MILLS
Albany 1, New York

NEWS ABOUT Mills

Cotton Mill News

American Fabrics Co., Bridgeport, Conn., has let contract to J. L. Simpson, 41 Putnam St., Bridgeport, for second-story addition to mill building, 28x73 ft.

Barston Fabrics, Inc., has purchased land for construction of upholstery weaving mill at Lavonia, Ga. Construction is expected to begin in the near future. Plant will cost approximately $500,000, and plans call for completion by late fall.

Beacon Textiles, Inc., will build $1,500,000 plant in Puerto Rico. Company will manufacture cotton blankets and spend $800,000 for machinery and equipment.

Bloom Mills, Inc., has purchased three large warehouses in Camp Sutton area of Monroe, N. C. The buildings will add 34,000 sq. ft. of mill space to the Bloom plants now in operation in Monroe. It is expected that by Jan. 1 the mill will occupy a total of 80,000 sq. ft. Installation of an additional 100 looms is expected to get under way.

Crown Weaving Mills, Hollywood, Cal., has been sold to Arnold Best Co. and will be removed to 755 Van Ness Ave., Fresno, Cal. Operations in the new plant will commence some time next month and it is expected that the production will reach 300,000 yd. a year.

Dundee Mills, Griffin, Ga., announces that a new warehouse adjoining Lowell Bleachery South, Experiment, Ga., is now under construction. It will contain 41,000 sq. ft. of floor space, and will cost $250,000.

Equinox Mill, Anderson, S. C., is nearing completion of addition to card room. Space for another row of cards is provided.

Erwin Cotton Mills Co., Erwin, N. C., has approved plans for one-story addition, 53x396 ft., in connection with expansion program now in progress at mill. About 164 new looms will be installed. Watson & Hart, Greensboro, N. C., is engineer. Erwin has employed Lockwood Greene Engineers, Inc., to modernize its plant No. 8, formerly Stonewall Cotton Mills, Stonewall, Miss.

Filature Tissage & Confection D'Haiti, S. C., Port au Prince, put cotton mill into operation recently. Buildings are constructed for a 10,000-spindle spinning and weaving mill on coarse goods. At present, more than half the spinning is installed and about 300 of the 400 looms. Owners plan to complete the machinery installation as fast as they can train the workers for it. Mill is equipped for chain dyeing of warp yarns for denims, etc.

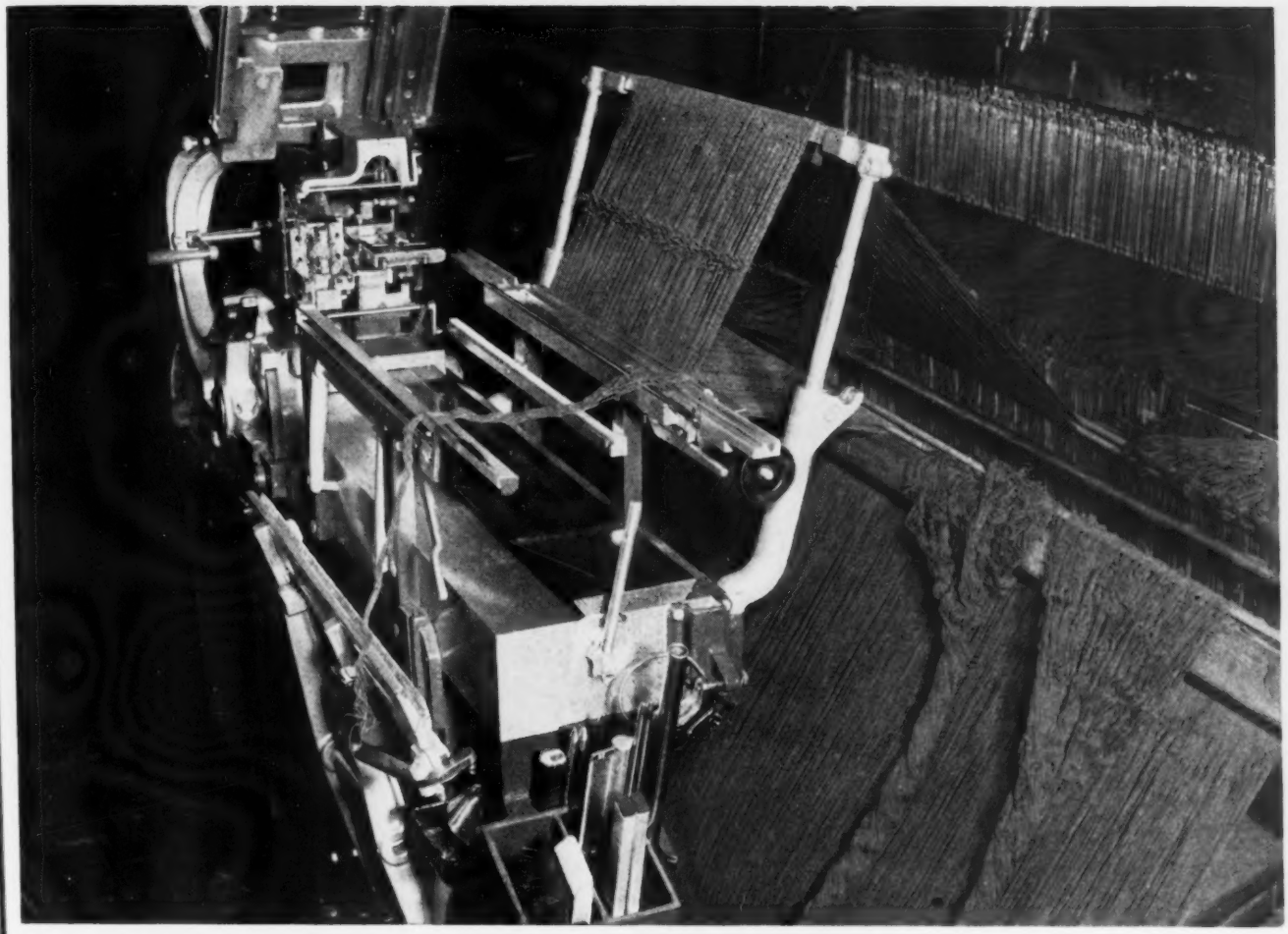
Hart Cotton Mills, Inc., Tarboro, N. C., plans expansion and modernization program, with expenditure of over $2,000,000. This will include the installation of equipment for increased capacity, air-conditioning system, and fluorescent lighting; 130 new dwellings for workers will be constructed.

Kontz Mfg. Co., Rome, Ga., has purchased a spinning mill at Kinston, Ga., and will manufacture yarn used in the production of fringes. Five new Cidega looms are being installed.

Laurel Hill Corp., Rutherfordton, N. C., is beginning preliminary work on a one-story mill building. The new plant will manufacture cotton and rayon fabrics.

Marshall Mfg. & Processing Plant in the WAA warehouse in Charlotte, N. C., has begun manufacture of cotton gauze. Plant contains 270 looms and 13,000 spindles and is a complete weaving and spinning mill. The mill is owned by Leading Embroidery Co., North Bergen, N. J.

Monarch Mills, Union, S. C., is installing $116,000



BARBER-COLMAN

PORTABLE WARP TYING MACHINE

MODEL LS

The above view shows the portable Warp Tying Machine in operation of tying-in a new wool warp at the loom. The ends on the left have been tied. The reed, harness and drop wires are left undisturbed, saving the labor and time required for removing and replacing the weaving elements, as well as re-gaiting of the loom. This machine is particularly adapted for tying-in wool, worsted, mohair and other difficult yarns. The Figure-8 knots securely hold all types of yarn. All warps are selected from an end and end lease resulting in perfectly straight warps.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

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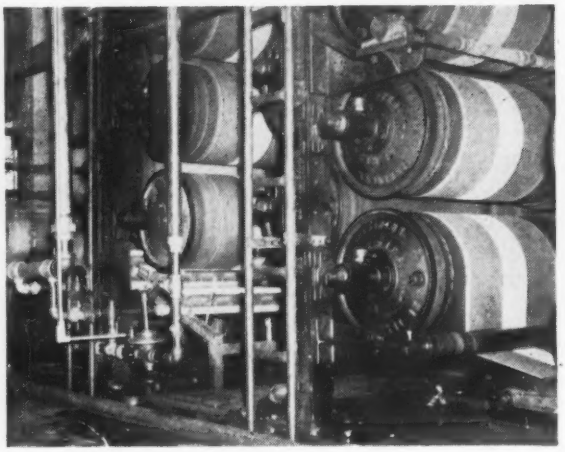
FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND



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DECORATIVE TINSEL — LAME — THREADS — CORDS — LAMINETTES
NOVELTY YARNS

NEWS ABOUT *Mills* (Continued)

cooling system in spinning and weaving rooms of Monarch plant. It is expected that new system, which is being installed by American Moistening Co., Charlotte, will be in operation within 90 days.

Muscogee Mfg. Co., Columbus, Ga., has asked bids for one-story addition to warehouse, including improvements in present building. Robert & Co., Atlanta, Ga., is architect and engineer.

Newberry Textile Mills, Newberry, S. C., will replace outmoded looms with new Draper looms. Modernization has cost the company $1,200,000.

Orr Mills, Anderson, S. C., has recently completed underground story to make room for about 100 additional looms.

Park Yarn Mills Co., Kings Mountain, N. C., is constructing two-story addition to its present mill, 78x116 ft. Construction contract has been awarded to C. T. Bennett Construction Co., Kings Mountain. New addition will be used for rearranging machinery and for housing new opening, picking, blending, and twisting equipment.

Powdrell & Alexander, Inc., will open branch plant in Los Angeles, Cal. E. C. Powdrell is now in California to conclude negotiations for plant having 35,000 sq. ft. of floor space to be used for curtain production. Operations will begin in September.

Springs Cotton Mills, with plants at Chester, S. C., Lancaster, S. C., Fort Mill, S. C., and Kershaw, S. C., will have all of plants air-conditioned.

Startex Mills, Tucapau, S. C., is erecting addition to finishing plant. Company is now rearranging machinery and equipment, and adding additional equipment, to provide straight-line production.

Swift Mfg. Co., Columbus, Ga., has building permits for expansion programs, to cost $96,600.

Wool Mill News

Ace Woolen Co., Buckland, Conn., will be moved to Marble Falls, Tex., following signing of contract by Max H. Furman, of Buckland, Conn. for operation of plant. Large stone building, which has been vacant, will be site of plant of Ace company. Five carloads of machinery are en route to Marble Falls, and others are expected to arrive soon. The Texas plant will be a 3-story building, 100x300 ft. Wool melton cloth will be produced.

Berkshire Woolen Co., Inc., Pittsfield, Mass., has let contract to W. H. Fields, Jr., Greenville, Ala., for new one-story mill at Greenville, 310x690 ft., reported to cost over $700,000, with equipment. Sherlock, Smith & Adams, Montgomery, Ala., is architect.

Brownwood, Tex.—Large unidentified Eastern woolen-mill has signed contract for purchase of laundry building and six-acre tract of land in Camp Bowie warehouse area near here, for establishment of wool mill. Plant will dye, comb, card, and weave cloth from Texas wool.

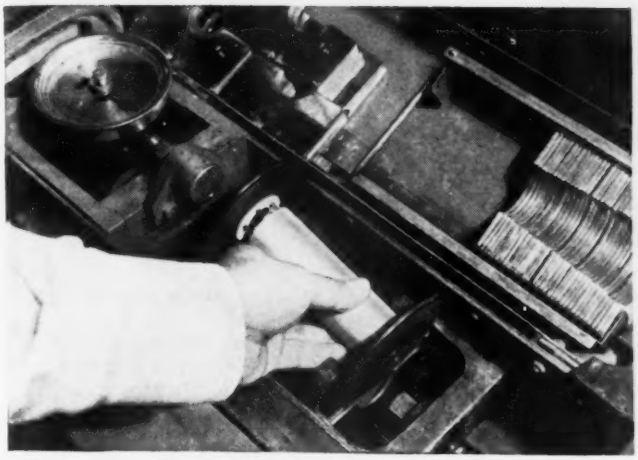
Chute Worsted, Inc., 153 Sparks St., Brockton, Mass., has been organized to operate mill. Oliver S. Chute is president and treasurer.

Cocheco Woolen Mfg. Co., East Rochester, N. H., has started construction of a 4-story brick addition, 300x85 ft. New building will eventually house the carding, spinning, and dressing departments and result in increased employment.

John Crowther Co., Ltd., Huddersfield, Eng., may start the erection soon of its worsted and velour plant in Elmira, Ont., which has been chosen as location for its Canadian branch mills.

Lafayette Worsted Spinning Mills, Woonsocket, R. I., has brick walls up for $100,000 mill addition on Hamlet Ave., from plans by Oliver W. Fontaine, 285 Main St., Woonsocket. Enterprise Building Co., 112 Gilbert St., has general contract.

Manchester, N. H.—Textile mills of which Mack Kahn is president are now spending about $2,500,000 for new equipment to modernize plant and diversify lines. About $1,500,000 of this amount is



MACK BOBBINS "Stand the Gaff"
because strength, too, is specified and tested at ALLENTOWN

This specially built testing machine pulls the heads off Mack Bobbins to make sure they'll stay on for you. Allentown developments (many exclusive) based on these tests result in better, stronger bobbins. An average of well over a ton is required to pull the head off a Mack Bobbin.

This is another of the rigid tests that performance prove Mack Bobbins before you buy them. The fourth in this series on the cumulative benefits you get with Mack Specifications will appear soon.

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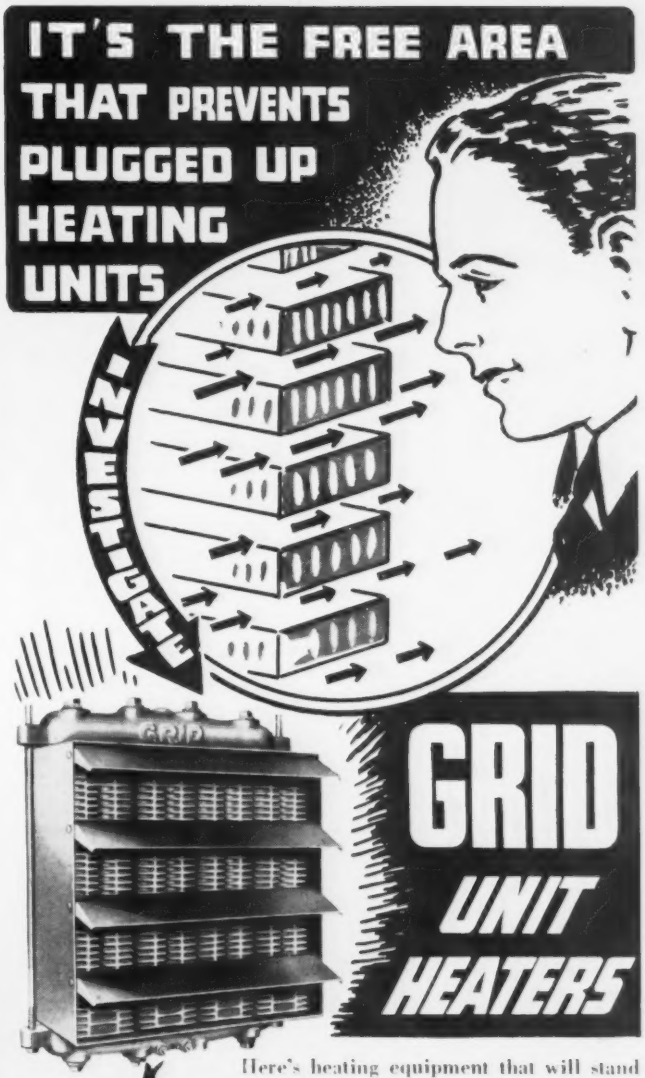
THE ACCEPTED STANDARD

IT'S THE FREE AREA THAT PREVENTS PLUGGED UP HEATING UNITS



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More "free" area per foot of heating surface in GRID products than any other. Hence, no clogging due to dust, lint, etc. And, easier to keep clean and operating at highest efficiency.

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NEWS ABOUT *Mills* (Continued)

being used for scouring, carding, and French-combing worsted machinery. Lymansville Co., Lymansville, R. I., will get some of machinery, with bulk of it going to Kahn-affiliated mill in Manchester, N. H.

Newmarket Mfg. Co., Lowell, Mass., is going to spend about a quarter-million dollars for woolen mill and necessary equipment at Machias, Me.

North Star Woolen Mill, Wakefield, R. I., is now owned by J. Charles Nice Jr., also owner of the Nice Yarn Co., Downingtown, Pa. Mr. Nice has five mills throughout New England and New York. Mill will convert from blanket weaving to carpet yarn.

Paragon Worsted Co., Providence, R. I., has taken out permit for erection of one-story top addition to present one-story building, and will proceed with work at once.

Somersworth, N. H.—A new woolen manufacturer has taken over the so-called No. 1 Mill in Somersworth, and will occupy all four floors for manufacturing purposes.

M. T. Stevens & Sons Co., Peacedale, R. I., will probably relocate woolen division now at Peacedale, in Milledgeville, Ga. J. P. Stevens & Co., Inc., early this year leased a large naval ordnance plant at Milledgeville, which has been idle since the war.

Varel Mills, Inc., Middleway, W. Va., subsidiary of Virginia Woolen Co., Winchester, Va., will serve as a finishing plant for the latter company, and is scheduled to get into operation by the first of the year. H. B. McCormac, Jr., of Winchester, is president of Varel Mills, Inc.

Synthetic Mill News

Beaunit Mills, Inc., will employ about 400 operatives when it begins operations, some time next January, at rayon-producing plant at Childersburg, Ala. Company may also construct one or more textile mills to handle rayon produced at new plant.

Burlington Mills Corp., Cramerton, N. C., will double capacity of its department for finishing yarn-dyed fabrics as the result of a $200,000 expansion program. New finishing machinery, including Sanforizing equipment, is to be installed. Burlington is installing new machinery in Oxford Cotton Mills unit. Production will be increased by 15 to 20%, according to Olin Shedd of Fayetteville, N. C.

Cadillac Textile Mills, Inc., Valley Falls, R. I., has foundations in for two-story, $100,000 mill addition.

Century Ribbon Mill, Inc., New York, N. Y., has received low bid from States Construction Co., at $227,000, for proposed new mill at Newport News, Va. Contract is expected to be awarded shortly.

Chicopee Mfg. Co., Lumite Div., Cornelia, Ga., has let contract to A. K. Adams, Inc., Atlanta, Ga., for one-story addition, to cost over $150,000, with equipment. Robert & Co., Atlanta, is architect and engineer.

Columbus Mills, Columbus, N. C., has begun expansion program that will double capacity of plant. Houses for operatives will also be put up.

Greenwood Mills, Greenwood, S. C., plans construction of new filament-rayon-weaving plant that will probably be located about three miles northwest of Greenwood. New plant is estimated to cost $3,000,000 to $4,000,000, and is expected to give employment to more than 1,000. The McPherson Co., Greenville, S. C. will do engineering work.

Gerrish Milliken is name of new Deering, Milliken mill which is nearing completion near Pendleton, S. C., at cost of $4,000,000. Mill will be rayon plant, and has been named in honor of present president's father.

Martin Hoesel Hosiery Inc., Staunton, Va., is planning to set up new plant for spinning of cotton and rayon yarns for hosiery trade.

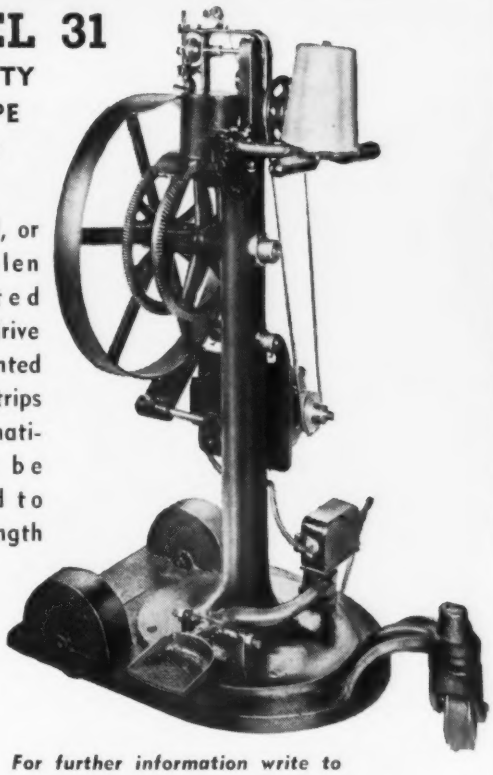
Newton Rayon Mill, Newton, N. C., subsidiary of the Burlington Mills, plans a 2-story addition to cost $82,000.

Rocky Mount Rayon Mills, Rocky Mount, N. C., has be-

MODEL 31

HEAVY DUTY GEAR TYPE SEWING HEAD

for piece-end, or tacking woolen and worsted cloth. Motordrive—motor mounted on column, Strips cloth automatically. Can be equipped to make any length of stitch from 3/8" long down to 7 stitches per inch.



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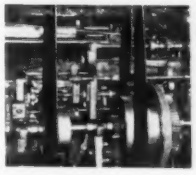
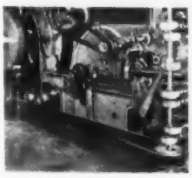
For shockload drives for immediate starts. No slipping or stretching. Gam-Oil ply, highest coefficient of friction of any of our leathers, goes next to pulley. Especially adaptable to picker drives with changing loads.



MULE DRIVE



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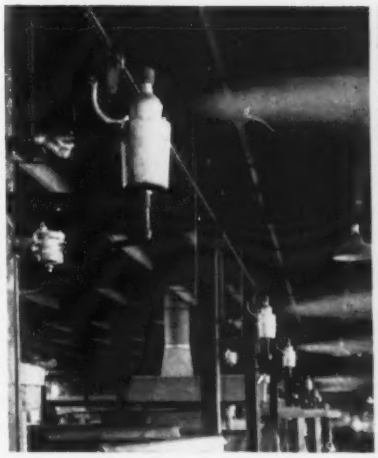


Check Your RELATIVE HUMIDITY

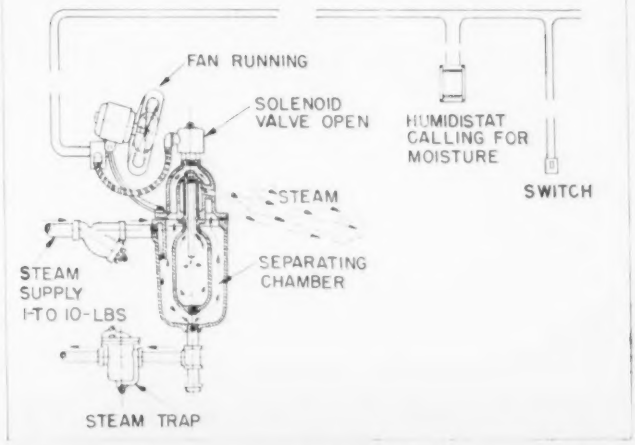
YOU ARE LOSING MONEY if the relative humidity in your plant is below what it should be. You can't maintain top production when textile fibres are dry and brittle. You lose in other ways, too. Employee efficiency is lowered, susceptibility to colds increases. Paperboard containers dry out, crack at the creases. Static electricity sparks create a fire or explosion hazard if volatile liquids are present.

More and more mills are eliminating these losses with Armstrong Steam Humidifiers. Completely automatic, trouble-free, they can be hooked into existing steam and electrical systems with no building alterations. Operating costs are less than a penny per day per 1000 cu. ft. Dry steam is dispersed directly into the atmosphere—there's nothing comparable on the market. ASK FOR BULLETIN 1771 giving complete data. ARMSTRONG MACHINE WORKS, 872 Maple St., Three Rivers, Mich.

HERE'S WHAT IT SHOULD BE:

Industry and Process	Relative Humidity Per Cent
Textile—Cotton	
Combing	60 to 65
Weaving	85
Textile—Rayon	
Spinning	85
Textile—Silk	
Dressing	60 to 65
Throwing	65 to 70
Textile—Wool	
Carding	65 to 70
Weaving	50 to 55
Textile—	
Testing Laboratory	65

HERE'S THE ANSWER WHEN AIR IS TOO DRY



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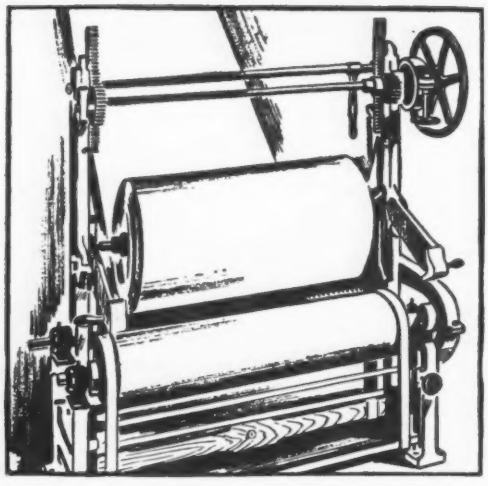
Made by the Makers of Armstrong Steam Traps



Saves Refinishing

The improved Simpson Cut-off Winder pays for itself as it operates. Saves refinishing up to 50 yards of cloth normally spoiled at completion of one roll, and beginning of another. Pneumatic cut-off and winder. Saves time, labor and material. Heavy lifting eliminated. Made in 50" and 60" widths, or special widths if desired.

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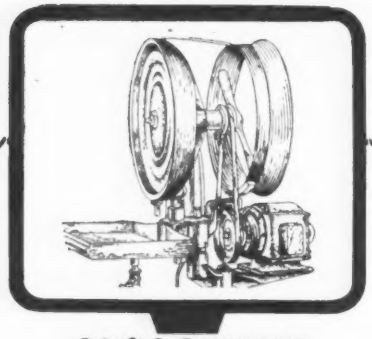

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WHERE and WHEN YOU NEED IT

The new, improved SOUTHWORTH HUMIDIFIER, is now ready for delivery.

Featuring its famous, sensitive, individual control, this economical and efficient unit is specifically designed to put moisture where it is needed—when it is needed. Operates at the slightest change in atmospheric conditions and maintains, without fluctuation, any desired percentage of humidity.

Southworth's Engineering Department is available for your free consultation.

Write, wire or phone today!

SOUTHWORTH MACHINE CO.
30 WARREN AVE. TEL. 4-1424 PORTLAND, ME.

NEWS ABOUT *Mills* (Continued)

gun work on a new building, designed to double present capacity of plant.

Robbins Cloth Mills, Inc., is scheduled to complete installation of machinery at new mill in Aberdeen, N. C. New mill will have 19,200 spinning spindles, and 192 looms; and will manufacture 60-in. rayon suitings.

Shiraz Mfg. Co., Ltd., Iran, is to have equipment supplied by H & B American Machine Co., Pawtucket, R. I. Contract, valued at $750,000, calls for supplying 11,952 spindles, as well as humidification equipment, power plant, and plant layout.

A. M. Smyre Mfg. Co., Gastonia, N. C., has plans for expansion and conversion of warehouse building into third production unit, to be devoted exclusively to spun rayon. Company's mills are now operating on combed yarns.

Statesville Cotton Mills, Statesville, N. C., has been sold by Burlington Mills Corp., Greensboro, N. C., to Seminole Mills, division of United Merchants & Manufacturers, Inc. Seminole will operate Statesville plant as rayon and spun-rayon spinning and weaving plant.

Tennessee Eastman Corp., Kingsport, Tenn., has plans for three-story addition, to be equipped as research laboratory. Erection will be carried out by day labor. Cost, reported in excess of $100,000.

Textron Southern, Inc., Hartwell, Ga., new building will occupy an entire block on Howell St. and will contain 100,000 sq. ft. of floor space. High-quality rayon dress goods will be manufactured. The Daniel Construction Co., of Greenville, S. C., has the contract, and the building is expected to be completed early in 1949. It will cost $2,500,000. Textron Southern, Inc., is completing two new buildings near Belton, S. C.

Verney Mills of Canada Ltd., Racine St., Granby, P. Q., and 100 Newbury St., Boston, Mass., has awarded the general contract for erection of an extension to its plant. The addition, which will cost at least $50,000, will be 2-story and 39x165 ft.

Knit Goods Mill News

Artcraft Hosiery Mills, Inc., plans expansion program that will require employment of additional 125 workers. This will provide over-all annual payroll of $500,000. About 150 workers are now employed. Russell Lozanne, Memphis, Tenn., is contractor.

Classen Knitting Mills, Ltd., S. Sherbrooke, Que., is planning erection of a modern mill building in the city of Sherbrooke. L. Sackstein is manager.

DeKalb Hosiery Mills, Fort Payne, Ala., and the **Fort Payne Hosiery Mills,** also of Fort Payne, have occupied a new building. The new building is fireproof, 140x130 ft., and contains a modern cafeteria.

Douglas Knitting Mills, Reading, Pa., newly organized, is equipping large building at Douglas and Moss Sts. for children's hosiery mill. John D. Horst, Jr., whose father is superintendent of Nolde & Horst Co., is head of new enterprise.

Knightsbridge Mills, Inc., Lawrence, Mass., a new firm, has commenced operations in the Agawam Dye Works building in the manufacture of knitted outerwear fabrics.

Willy de Mond, otherwise known as "Willys of Hollywood" announces that he is establishing a new company called Hollycraft Hosiery Mills Co. at Glendora, Cal. Mill will produce 54- and 60-gage nylon and silk hosiery. Operations are expected to start in October. Main office of the new corporation will be at 6331 Hollywood Blvd., Los Angeles. Kurt E. Thierfelder will be in charge of the manufacturing operations.

Nebel Knitting Co., Inc., Charlotte, N. C., is now installing additional machinery for production of 54-gage hosiery. This is part of expansion program, now under way, that will increase plant capacity to three times present size.

Oconto Knitters, Inc., with 10 knitting machines, has begun business at 203 Smith Ave., Oconto, Wis.

Owen Osborne Hosiery Mill Inc., Gainesville, Ga., is in-

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HARD CHROMIUM PLATING

It's—

ENGINEERING That Counts!

It's The *ENGINEERED* Hard Chromium Plating Service!

You buy hard chromium plating on textile parts for two reasons:

1. Longer Part Life!
2. Assured Part Protection!

Most metallic parts that are subject to friction or that must be kept clean and free from corrosion are perfectly suited for industrial chromium plating. These parts include all types of rolls, combs, needles, thread guides, tension devices, leash rods, etc.

Let us put the WALHARD Finish on a trial lot of parts for you. Send parts today.

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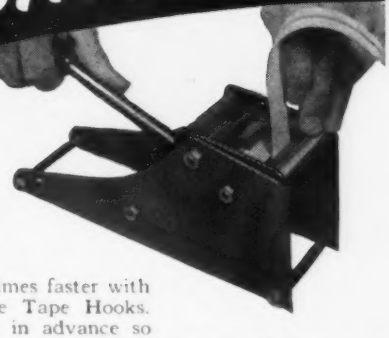
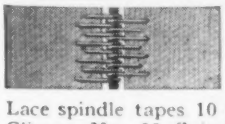
Assures The Best In Hard Chromium Plating

10 TIMES FASTER THAN STITCHING!



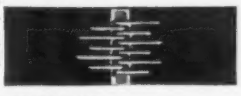
SPINDLE TAPE LACING EQUIPMENT



Lace spindle tapes 10 times faster with Clipper No. 25 Spindle Tape Hooks. Tapes can be prepared in advance so frame is shut down only long enough to place new tape on the pulleys and join ends with connecting pin. Tapes run true—last longer—run smoother—require less tension—VIBRATION IS ELIMINATED

CONDENSER TAPE LACING EQUIPMENT

Lace condenser tapes with Clipper No. 25 Condenser Tape Hooks. Clipper laced tapes, prepared in advance, can be installed in a fraction of the time required for endless tapes. Tape may be purchased in the roll at considerable saving.



CLIPPER BELT LACER COMPANY, GRAND RAPIDS 2, MICHIGAN

Clipper BELT LACING EQUIPMENT

Thousands of ENDS

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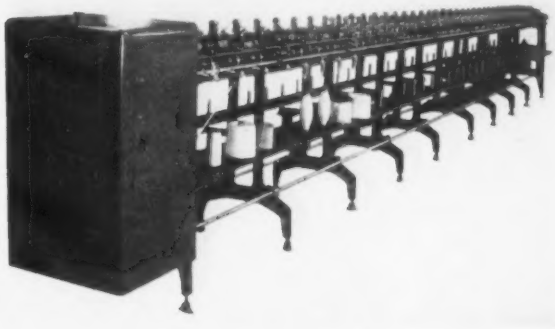
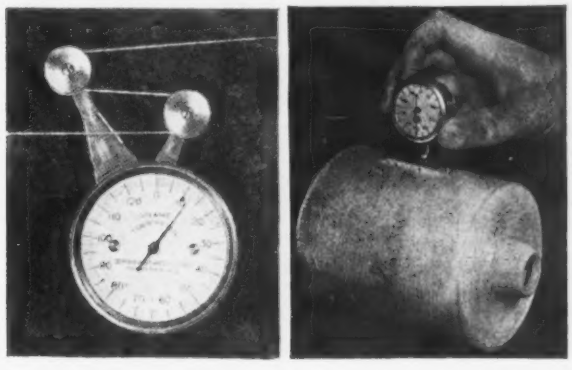
Sipp-Eastwood High Speed Creel

for use with either horizontal silk system or cotton beam warpers. Takes cones, spools, tubes or pirns. Tensions for every need. Used for acetates, viscose, nylon, and other synthetic yarns.



New F. G. Redraw

makes possible smoother traverse and higher speeds than are possible with the conventional redraw. Speed is limited only by strength of yarn—500 yards a minute or more.



a. **Tensometer** gives warning of faulty tension in warping, winding, quilting, etc.

b. **Densimeter** measures density of cops, quills, spools, and other packages.

Used together to obtain uniform result through control of tensions.

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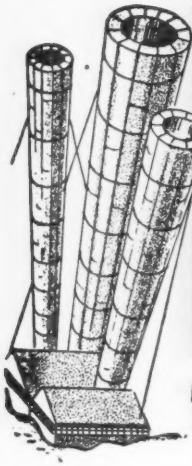

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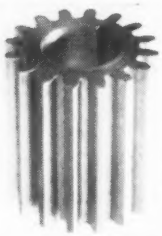

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NEWS ABOUT *Mills* (Continued)

stalling a new air-conditioning system, constructing a utility addition to the mill, and replacing 20-section full-fashioned 42- and 45-gage hosiery machines with 30-section, 51-gage machines.

Reamstown Hosiery Co., Mohnton, Pa., **Berks Textiles, Inc.**, Reading, Pa., and **Howard Hosiery Mills, Inc.**, Sinking Spring, Pa., will put in more than $1,000,000 worth of new machinery. Reamstown organization has closed units at Adamstown and Shillington and will concentrate production at Mohnton.

Sanford Hosiery Mills, Inc., a new company, is starting production at Sanford, N. C. Company will employ about 40 persons with a goal of 900 doz. pr. of nylon hose a week. Luther A. Aldridge is president. He was formerly associated with the Hugh Grey mill at Concord.

Signal Knitting Mills, Chattanooga, Tenn., plans erection of one-story addition to plant.

Southerland Dyeing & Finishing Mills, Inc., Mebane, N. C., capitalized at $100,000, has obtained charter to manufacture and sell hosiery. Incorporators include William Burke, of Burlington; Mrs. Gladys Clark, of Durham, and Francis Southerland of Mebane, N. C.

Taylor, Woods, Ltd., EnnisKellen, Northern Ireland, subsidiary of York Knitting Mills, Ltd., Toronto, has been established and is employing 200 operatives for manufacture of 54-gage hosiery. Current plans call for construction of newer and larger mill.

Tennessee Knitting Mills, Columbia, Tenn., has installed new air-conditioning and fluorescent lighting. Mill has added a number of 32-section, 51-gage hosiery machines.

Will De Laine Hosiery Mills, Inc., Charlotte, N. C., has obtained a charter to manufacture hosiery. Incorporators include E. W. Sachsenmaier, Robert Moeller, and H. B. Lockwood, all of Charlotte.

Worcester Knitting Co., Worcester, Mass., has purchased from Matthew P. Whittall two buildings at 10-16 Salem St., Worcester, for about $200,000. President and treasurer of company is Abraham S. Persky. Buildings are brick structures, and about 21,000 sq. ft. of land was included.

Dyeing & Finishing Plant News

Alexander Dye Works, Bolton, Ont., was recently purchased by General Dyehouse Co., 3 Sorauren Ave., Toronto 3, and will in future be operated as General Dyehouse Co.

Allegheny Hosiery Finishing Co., Philadelphia, Pa., has moved to larger quarters at Trenton Ave. and Huntington St., Philadelphia.

Bunker Hill Dye Works, Inc., newly organized, will engage in general dyeing and finishing business at 262 Main St., Paterson, N. J. Martin Krugman is to be manager.

Lowell Bleachery, South, Experiment, Ga., has let contract to Newton Coal & Lumber Co., Griffin, Ga., for construction of new addition to cost about $250,000. Addition will contain 18,000 sq. ft. of floor space and is being constructed between present bleachery and warehouse.

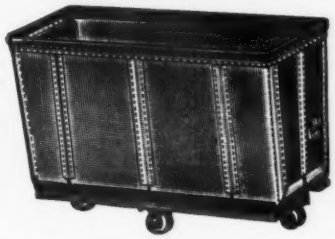
Maplewood Yarn Mill, Fall River, Mass., has foundations in for a concrete addition to the dyehouse on Howe St.

Pawtuxet Valley Dyeing Co., West Warwick, R. I., and its equipment has been purchased by Heller Rayon Jersey Corp. Budd Levison, head of Heller Corp. has assumed the presidency of the Pawtuxet Co.

Richmond Piece Dye Works, Inc., Richmond, Va., has purchased from Thomas H. and Courtenay M. Gresham land and buildings located at 209, 213 Hull St., South Richmond.

Ross-Smith Corp., which handles "Phototone" printing process on fabrics, has just moved offices to Glenlyon Print Works, Phillipsdale, R. I.

J. P. Stevens & Co., New York, N. Y.—This company is not planning to erect a large finishing plant on land owned by it at Kolloch, S. C. This corrects a report to that effect given in these columns last August.



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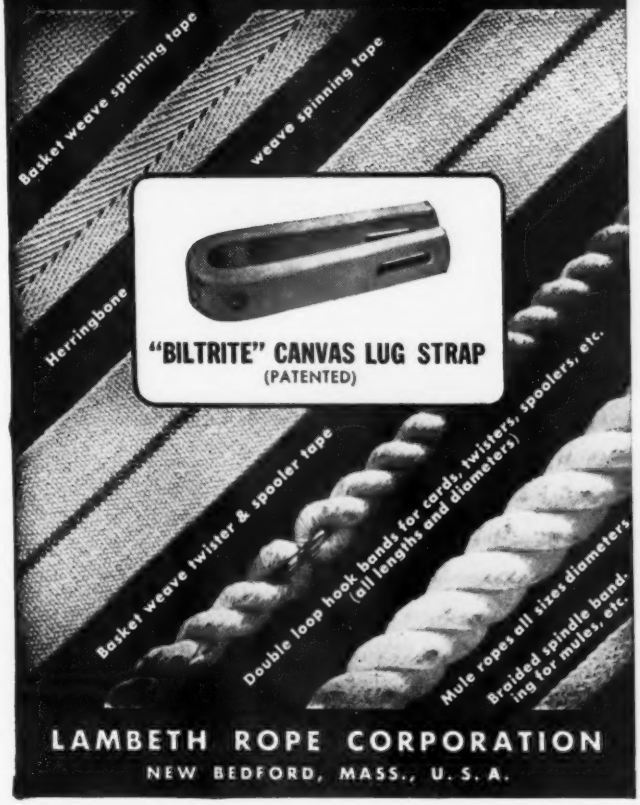
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weave spinning tape
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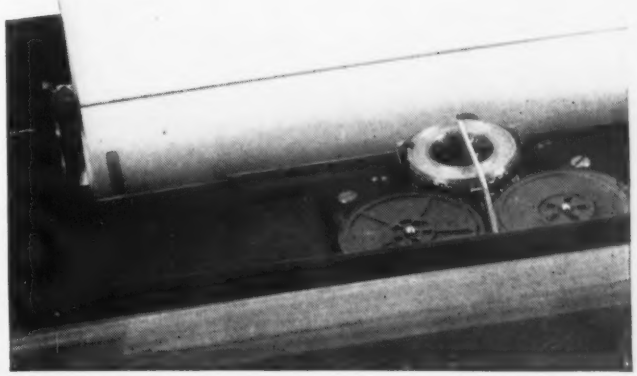

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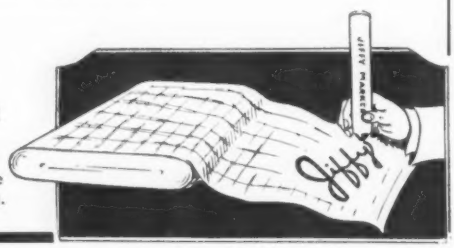

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GREENVILLE, SOUTH CAROLINA

NEWS ABOUT *Men*

Robert S. Small, of Greenville, S. C., who has been serving as vice president and assistant treasurer of Otteray Textiles, Inc., Anderson, S. C., has been elected president and treasurer of company. He was named by board of directors to posts held by the late Harry J. Haynsworth.

Frederick A. Williams, former president of Cannon Mills, Inc., Kannapolis, N. C., left for Tokyo, Japan, recently, to begin his work of aiding General Douglas MacArthur on textile program for Japan.

Clifton R. McCall, president of McPar Hosiery Mills, Marion, N. C., has purchased stock held by **E. W. Parker, Sr.,** in company. Mr. Parker has been secretary and treasurer, and is retiring from company. **C. Harry McCall** has been appointed secretary and treasurer, succeeding Mr. Parker.

Herbert J. Adair, executive vice president of Artloom Carpet Co., Inc., Philadelphia, Pa., formerly known as Artloom Corp., has recently been elected president. He succeeds **A. S. Mitchell,** who becomes chairman of board.

Arthur Vander Gracht has been elected president of Gilbert Knitting Co., Little Falls, N. Y., succeeding the late George H. Jones.

L. S. Patterson has been elected president of United Cotton Goods Co., Inc., Griffin, Ga.

S. L. Lewis, Jr., general sales manager of Eagle & Phoenix Div. of Fairforest Co., Columbus, Ga., has been elected a vice president of the company.

Guy C. Cromer has been elected vice president of manufacturing of Textron, Inc., and its subsidiaries. He was formerly executive vice president of Textron Southern, Inc., since its formation.

F. A. Austin, for 13 yrs. associated with Firestone Textiles, Inc., Gastonia, N. C., has been promoted from assistant superintendent to vice president and general manager for Firestone Textiles, Ltd., Woodstock, Ont. **J. M. Forrest** has been appointed superintendent in charge of quality at the plant at Gastonia.

Frank J. Holland has joined Columbia Mills, Inc., New York, N. Y., and has been elected executive vice president of company.

F. M. Krimble, after serving as secretary treasurer of Poulan Mills, Poulan, Ga., for 44 yrs., has retired.

Louis Lazare has been elected vice president of Burlington Mills Corp., New York. Mr. Lazare was formerly president of Duplex Fabrics Corp. prior to its acquisition by Burlington Mills in September, 1947.

Austin J. Bailey, who recently resigned as vice president of Brookfield Mills, Inc., East Brookfield, Mass., has joined Holliston Mills, Inc., Norwood, Mass.

Bert G. Gross, vice president and co-founder of Applikon, Inc., Paterson, N. J., has resigned from firm. His future plans are not known.

Herman Barrow has become general assistant to **O. W. Hampton,** production manager of Knitted-Fabrics Div., Native Laces & Textiles, Inc., New York, N. Y. Division handles the company's tricot fabrics.

Al Blaine has been appointed assistant to Michael B. Ross, vice president and manager of the rayon division of D. B. Fuller & Co., Inc.

O. A. Hamilton, Jr., has joined Chadbourn Hosiery Mills, Inc., Charlotte, N. C., to head the newly created department of customer service and research.

Robert Cushman, former

On Hallowe'en,—and every other day of the year, milady will "be-witching," if her legs are sheathed in hosiery that is soft, smooth, smoky-dull and ultra sheer, — Hosiery that is *beautified* and *protected* by that exclusive "film," which only *Dura-Beau* can impart.

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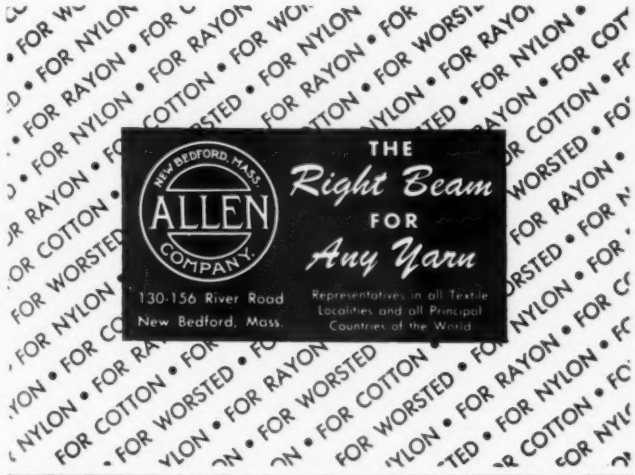

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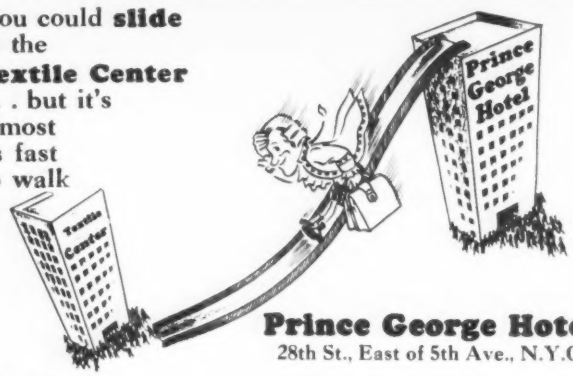

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NEWS ABOUT *Men* (Continued)

executive of Pomona Mills, Greensboro, N. C., has been named as resident manager of the Nashua and Jackson Mills of Textron, Inc., Nashua, N. H.

Jackson A. Woodruff has been appointed head of dyeing and finishing division of American Viscose Corp., textile research department. **Textile development laboratory division**, which Mr. Woodruff founded last year, will be merged with dyeing and finishing division. Change follows the resignation of **Harry F. Creegan** as head of dyeing and finishing division.

Maurice H. Davis, formerly cost engineer, has been appointed general superintendent of Maysville Cotton Mills, Maysville, Ky., operated by January & Wood Co. He succeeds **W. O. Blanford,** who after 20 yrs. as general superintendent, has taken over the post of technical advisor. **William C. Adair** succeeds Mr. Davis.

Lucius Delk, former head of the laboratory of Union Bleachery, Greenville, S. C., has been made assistant superintendent, succeeding **Fred Langford.**

A. J. Forbes has joined Fulton Bag & Cotton Mills, Atlanta, Ga., in the engineering department. He was formerly district manager for the TVA at Huntsville, Ala. He is a brother of Ted Forbes, executive vice president of the Cotton Manufacturers Association of Georgia.

G. E. Frick has been appointed general superintendent of both the bleachery and dye plant of Lowell Bleachery South, Experiment, Ga.

Arthur C. Young, Sr., former assistant director of standards with Bibb Mfg. Co., Macon, Ga., has become manager of standards for Newberry Textile Mills, Newberry, S. C.

John McArthur, formerly manager of Ernst & Ernst, certified public accountants, Winston-Salem, N. C., has joined executive staff of Erwin Cotton Mills, Durham, N. C.; and will assist officers of company in correlating all phases of company's activities, including finances, costs, purchasing, production, etc.

H. B. Richardson, head of cotton department of Union Buffalo Mills, Union, S. C., for 23 yrs., has resigned, and has been succeeded by **J. E. Rowan,** of Wilmington, N. C.

J. M. Lane has become manager for Biltmore Mfg. Co., Asheville, N. C. The Biltmore company recently purchased Pinnycraft plant from Pacific Mills, Inc.

Emil Hess, general manager of Stunzi Sons Silk Co., Inc., has retired and been succeeded by **F. Weber** at plant at Ephrata, Pa. He will remain on board of directors.

F. W. Simpson, of Columbia, S. C., formerly connected with Atomic Energy Commission, Oak Ridge, Tenn., has become member of staff of Institute of Textile Technology at Charlottesville, Va.

Herman Roeser, formerly with Joseph C. Cobert Associates, Philadelphia, which firm was dissolved as of June 30, is now head of quality control at the Lebanon and Palmyra, Pa., plants of NoMend Hosiery, Inc.

Adolphus Jarvis, Plainfield, Conn., is now manufacturing head of Grosvenordale Mills, North Grosvenordale, Conn. **A. J. Matel** has become assistant general manager.

Don Scott has been promoted to assistant resident manager of the Webster Mills of American Woolen Co., Webster, Mass., succeeding **Everett Symes.**

M. C. Moore, formerly assistant overseer of Poinsett Mill, Greenville, S. C., is now overseer of spinning at Rayston Mill, Rayston, Ga.

F. D. Porter has been promoted to superintendent of Jackson Mills, Wellford, S. C. He was formerly assistant superintendent. He succeeds **Marshall Cottingham,** who resigned to become associated with Springs Cotton Mills, Lancaster, S. C., in an advisory capacity.

Paul Sell has been appointed assistant superintendent of Hugh Grey Hosiery Co. in charge of manufacturing, and **Herman Yandle,** has been appointed to the new post of

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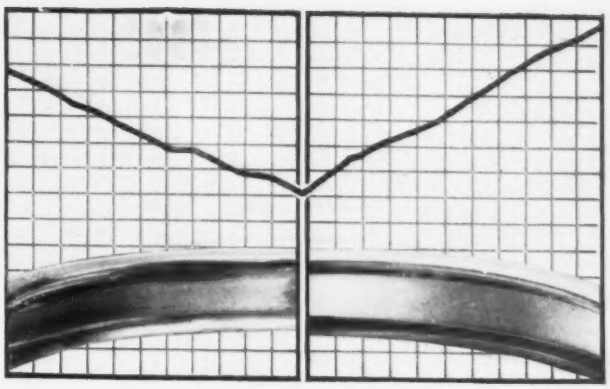

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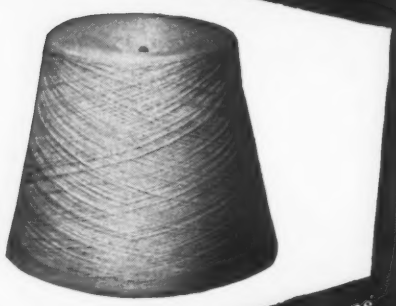

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NEWS ABOUT *Men* (Continued)

assistant superintendent in charge of machinery maintenance.

Zeb V. Simmons has joined Borden Mills at Kingsport, Tenn., as overseer of weaving.

Milton D. Crawley has become overseer of No. 7 plant of Erwin Cotton Mills, Neuse, N. C.

R. G. Lackey, formerly assistant overseer of weaving at Pacolet Mills, New Holland, Ga., is now general overseer of weaving, Rayston Mill, Rayston, Ga.

John W. Arnall, general foreman of finishing at Fieldcrest Mills, Spray, N. C., has been promoted to assistant superintendent.

Beekman Hilton, who has been associated with Abbeville Mills, Inc., Abbeville, S. C., has been promoted to superintendent of new mill now being established at Pendleton, S. C., by Deering-Milliken interests. He will assume his new duties about Sept. 1.

Joseph C. Colbert has become superintendent of Hugh Grey Hosiery Co., Concord, N. C., succeeding **R. A. Folkman,** resigned. Mr. Colbert was formerly associated with his own firm of consulting engineers, Joseph Colbert Associates.

Milton D. Crawley has resigned as assistant superintendent of Brodnax Cotton & Rayon Mill, Brodnax, Va., and is now general overseer of No. 7 plant at Erwin Cotton Mills Co., Neuse, N. C.

Vincent Dawson, from Yardville, N. J., has become superintendent of worsted yarn for Corriedale Mills, Moosup, Conn.

Wallace Greaton has become overseer of carding for Ashland Corp., Jewett City, Conn. He was formerly overseer of weaving at D. Mackintosh & Sons Co., Holyoke, Mass.

Maurice Lannan has become overseer of finishing at Virginia Woolen Co., Winchester, Va., as well as at Berkley Woolen Co., Martinsburg, W. Va.

Walter Lester has been promoted to overseer of sewing at Champlain Mills, of American Woolen Co., Winooski, Vt., succeeding **John Major** who has been transferred to National & Providence Mills, Providence, R. I.

Benjamin B. Tunick has been elected president of Fiber Industries, Inc., New York, N. Y.

J. E. Vining has become superintendent of textile department of Iowa State Penitentiary, Fort Madison, Iowa, succeeding **W. H. Dennett.**

D. E. Williams has resigned as overseer of drawing and spinning for Corriedale Mills, Moosup, Conn.

George Bolton is now carding overseer at Malden Spinning & Dyeing Co., Malden, Mass.

Russell Fennell, former assistant superintendent of Linwood Cotton Mills, LaFayette, Ga., has been made superintendent to succeed **J. F. Plexico,** who has joined Springs Cotton Mills at Lancaster, S. C.

Frank Arnold has become overseer of weaving and dressing at Deena Woolen Mills, Sabattus, Me.

J. E. Sarazin, overseer of finishing, has succeeded N. J. **Lannan** at Bridgewater Woolen Co., Bridgewater, Vt.

George Davis, former overseer of weaving for Merrimack Mfg. Co., Lowell, Mass., has become superintendent of weaving for a Cuban plant.

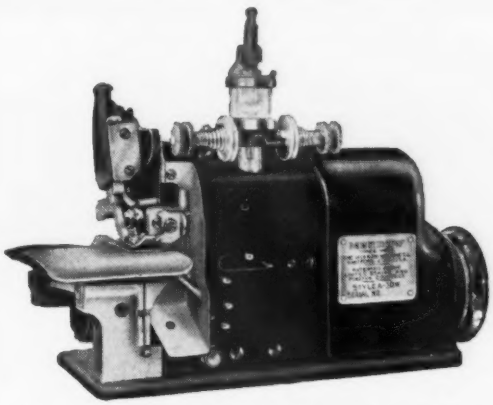
Arthur Hart has become overseer of weaving at the Merrimack Mfg. Co., Lowell, Mass.

Andrew Healy has become overseer of carding and spinning at Deena Woolen Mills, Sabattus, Me.

Lawrence Shaw has taken a position with Guild-Northland Mills, Laconia, N. H. Mr. Shaw was previously second hand and finishing overseer with American Woolen Co.

M. F. Taylor, of Manville, R. I., has become overseer of weaving at Merrimack Mfg. Co., Lowell, Mass.

Edwin M. Bost, assistant



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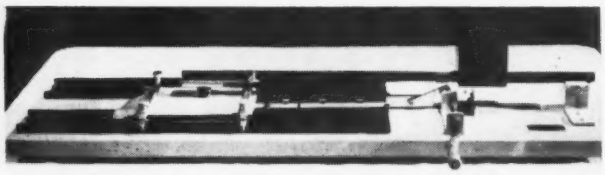

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Made any size or style wanted. Center and end wheels. Water proofed and chemically resistant finish.
Self-oiling and no grease can drop on the floor. Used for all kinds of fine yarns, wet or dry.
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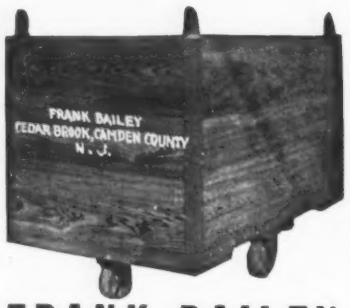


FRANK BAILEY
CEDAR BROOK P. O.
CAMDEN CO., NEW JERSEY

NEWS ABOUT *Men* (Continued)

superintendent of Erwin Cotton Mills, Erwin, N. C., has been appointed superintendent of the company's newly-acquired plant at Stonewall, Miss., known as Unit No. 8 of the Erwin Cotton Mills Co.

E. Denton Coker will be superintendent of the new Hartwell, Ga., plant of Textron Southern, Inc., which is to be constructed. He has already arrived in Hartwell.

Dan Leister, of Greenville, S. C., is now superintendent of the Aragon-Baldwin Mill at Rock Hill, S. C., succeeding **T. B. Moore**. Mr. Leister was formerly superintendent of Duncan Mill, Greenville, S. C.

John Moran has become overseer of dyeing at Putnam Woolen Mills, Putnam, Conn., succeeding **Joe Solodyna**, who died recently.

H. P. Pearson succeeds **Frank Adams** as assistant superintendent of Baltic Mills of American Woolen Co., Enfield, N. H. Mr. Adams was transferred to Mascoma Mills, American Woolen Co., Lebanon, N. H.

F. D. Porter, assistant superintendent of plant of Jackson Mills, at Iva, S. C., has been promoted to superintendent of company's plant at Wellford, S. C., succeeding **M. Cottingham**, resigned.

Sidney L. Cox, of Spray, N. C., has become overseer of mending and burling at plant of M. T. Stevens & Sons Co., at Rockingham, N. C.

John Feenstra, overseer of finishing at Hayward & Schuster Woolen Mills, East Douglas, Mass., has resigned. He has been succeeded by **George Wood**.

Joseph G. Mimini, formerly with H. T. Hayward Co., Manchaug, Mass., is now overseer of dyeing at Buckley & Mann, City Mills, Mass.

W. P. Nicholson has been named superintendent of Glenwood Cotton Mills, Easley, S. C. He succeeds **M. E. Garrison**, retired.

Dr. Ronald E. Glegg, recently of Fredericton, New Brunswick, has been appointed to the chemistry department of Lowell Textile Institute, Lowell, Mass., as assistant professor of organic chemistry. **Martin J. Lydon**, of Lowell, is instructor in the newly created department of social sciences. **Stuart L. Mandell**, of Haverhill, is also made an instructor in the department of social sciences. **Robert C. Gray**, of North Andover, has been appointed instructor in woolen and worsted design.

Richard Lardner has been elected a vice president of Forstmann, Inc., New York, agents for Forstmann woolens. Mr. Lardner has been associated with the firm since 1933.

John J. Bosshard has been appointed assistant manager of the fabric development department, American Viscose Corp., Wilmington, Del. Mr. Bosshard has been a technician in this department for the last four years working with **Walter E. Scholer**, recently appointed as manager.

Earle Mauldin, Jr., has been appointed office manager of Ware Shoals Div., Riegel Textile Corp., Ware Shoals, S. C., succeeding **W. M. Clatworthy**, resigned. Mr. Mauldin, chief accountant at Ware Shoals since 1946, is son of **Earle Mauldin**, Southern editor of TEXTILE WORLD, Atlanta, Ga.

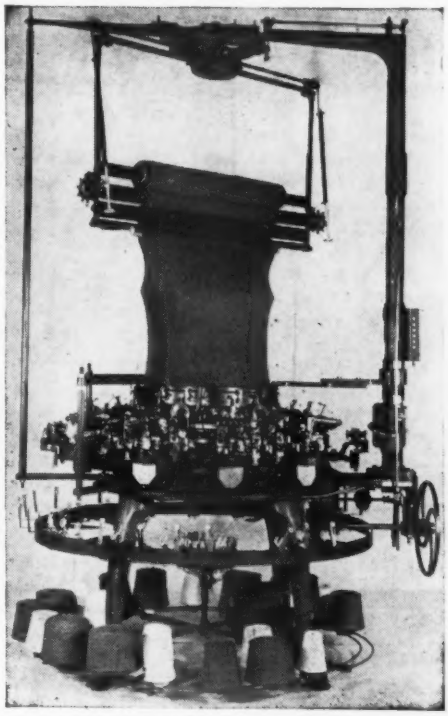
G. Sabourin has become overseer of spinning for D. Mackintosh & Sons, Holyoke, Mass.

R. Fyfe has resigned as overseer of finishing for plant of American Woolen Co., North Vassalboro, Me.

OBITUARY

Jackson Wilbur Burnett, 69, president and treasurer of Southern Weaving Co., died Aug. 19. He was a graduate of the University of Georgia, class of 1900. Before going to Greenville in 1923, Mr. Burnett was in charge of a textile plant in Brevard. Southern Weaving was organized May, 1924 by Mr. Burnett and F. D. Murcock.

Dr. Herbert J. Heribert, 53, president and founder of Heribert, Inc., New York manu-



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SPRING BEARD KNITTING NEEDLES

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CRANE Knitting Machines meet the demands of rapidly changing patterns and styles. Their middle name is versatility . . . plus smooth, fast running operation that eliminates expensive stops. Among their exclusive features are patented hardened Wing Burr Wheels and patented Thread Stop Motion. There's many a Knitting Mill in which batteries of Cranes are the mainstay of production.

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Announcing New Model PD-1
MOISTURE REGISTER

for

SCOURED WOOL

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Deep, accurate, immediate moisture content readings

Now you can quickly and easily test moisture content in the range of 0-15% (wet basis). Specifically designed for the textile industry, Model PD-1 makes use of electronic penetration field to test material to average depth of three inches as compared to depth of one inch heretofore.

Duplicable readings are insured by microswitching arrangement which lights meter dial when correct pressure for test is applied. Calibrations for scoured and combed wool, wool yarns and wool blankets are available with instruments.

Similar model available for bulk cotton.

Write today for complete details. Specify type of material to be tested. Moisture Register Company, Dept. G, 133 North Garfield, Alhambra, California.

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NEWS ABOUT *Men* (Continued)

facturers of plastic sheetings for raincoats, shower curtains, etc., died Aug. 19.

Alfred P. Howes, 63, president of Howes Publishing Co., New York, publisher of *American Dyestuff Reporter, The Hosiery Weekly,* and *Textile Colorist & Converter,* died Aug. 21.

Prof. Louis Bader, a member of the faculty of the New York University School of Commerce, Accounts, & Finance for over 20 yr., died Aug. 23, at Evansville, Ind. He was the author of several books on economic subjects and at one time was a contributor to TEXTILE WORLD.

Henry Walton, 73, formerly president of George Mabbett & Sons Co., Plymouth, Mass., died Aug. 13. Mr. Walton began with the Mabbett company in 1899, rose to superintendent and later was elected president, a position he held until his retirement in 1944.

Jackson Wilbur Burnett, 69, president and treasurer of Southern Weaving Co., Greenville, S. C., died Aug. 19.

Ernest Rohr, 56, vice president and director of Duplan Corp., died recently. Mr. Rohr, a native of Switzerland, came to this country in 1913 and started as an apprentice in the Duplan mills at Hazelton, Pa. He was elected a vice president in 1945.

Theo L. Thomas, 75, retired manufacturer, for 45 yr. connected with Holden Leonard Woolen Co., Bennington, Vt., died Aug. 8. He was secretary of the corporation when the plant was closed in 1939. He was a member of the National Association of Wool Manufacturers and an honorary member of Phi Psi Textile Fraternity.

George M. Heiwig, 94, who held what may be a world's record for length of employment by one company, died at Seymour, Ind., Aug. 28. From 1868 to 1946 he was actively employed by Seymour Woolen Mills. He was appointed engineer in 1879 by Louis Schneck, grandfather of the present president of the mill, Don A. Bollinger. He continued in that office and department until he had completed 78 years with Seymour.

Benjamin F. Meffert, 65, of Norfolk, Conn., at one time a partner in the old firm of Amory, Browne & Co., which represented a number of leading mills on the New York market, died recently.

John A. Pearson, 74, retired secretary-treasurer of Esmond Mills, Esmond, R. I., died Aug. 7. Mr. Pearson had served for more than a decade in the New York office of the company, retiring in 1931.

William A. Blanchard, 101, retired Boston, Mass., wool merchant, died Aug. 11.

August G. Hafner, 66, founder and president of Hafner Associates, Inc., Long Island City, N. Y., died Aug. 24. He was also founder of Hafner Fabrics Corp., New York. He was a member of the Queensborough Rotary Club and vice president and director of the Queensborough Chamber of Commerce.

Joseph A. Bryant, for 20 yr. vice president of Arnold, Hoffman & Co., Providence, and lately a director of Bryant Chemical Corp., died Sept. 12.

John Q. Gant, former vice president and treasurer of Jewell Cotton Mills, Jewell, Ga., and a director of Glen Raven Mills of North Carolina, died Aug. 19. Mr. Gant and his brothers bought the Jewell mills in 1920 and later moved from Burlington, N. C., to Georgia where he became active head of the mills.

Oliver E. Elwell, 85, a pioneer in the application of silk to glove making, died Aug. 15. He was at one time associated with Niagara Silk Mill and Van Raalte Co. He was general superintendent of various Van Raalte mills before his retirement in 1930.

Albert F. Snyder, 45, former general manager of Cluett, Peabody & Co., Inc., Troy, N. Y., plants and later manager of special production for the firm, died Aug. 16.

Robert S. Roberson, 30, of Richmond, Va., who had been connected with the Spruance Ampthill plant of E. I. du Pont de Nemours & Co. for a number of years, died Aug. 12.

TEXTILE PROCESS COMPOUNDS

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Oil-base fugitive tints for all synthetic and natural fibers

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SEARCHLIGHT SECTION

MEN WANTED

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SUPERINTENDENTS and managers for rayon and acetate fabrics, preferably those familiar with dyeing and finishing as well as weaving and warp preparation; superintendents for worsted and woolen cloth and yarn mills; cotton yarn superintendent coarse cotton yarns; superintendent bobbinet mill; narrow fabric manufacturer and salesman combined, must be strong executive, splendid salary, Northern plant; superintendents and assistant superintendents worsted yarn mills, Bradford and French systems; tricot knit goods manufacturer and superintendent, very fine salary; full fashioned hosiery mill superintendents and foremen; cotton yarn and cloth mill superintendents for mills in So. America; Ass't Supt. Southern print cloth mill, good salary.
OVERSEERS for following departments: woolen raw stock and piece goods dyeing; dyeing also finishing for rayon and acetate fabrics; dyeing cotton and rayon yarns, hand kettles, small lots, West Coast; package dyeing; cotton and rayon slashing, spooling, warping; underwear finishing; cotton ring spinning and warp preparation, N. E. mill $80 to $85; carding for woolen, cotton and shoddy mills; woolen mule and frame spinning; cotton cloth room, Southern plant; knitting, expert on jacquard, T.J. and Links Supreme machines; woolen and worsted finishing; worsted drawing and spinning; woolen carding and spinning combined, Northern and Southern mills; cotton and rayon boss dyers for So. America; corduroy finishing; sewing on tricot or woven fabrics; full fashioned hosiery knitting and fixers.
MASTER MECHANICS; chief engineer Mid West mill; cost accountant experienced in worsted and woolen cloth and yarn mills $6,000-$7,500; time study men (several); dyestuffs-chemical laboratory assistant near Boston; salesman to sell machinery and textile fabrics; salesman for heavy machinery salesman mill supplies; salesman worsted yarns, N. Y. and Philadelphia territory.
SECOND HANDS for following departments: cotton finishing, more especially frames and calenders; package dyeing; weaving, cotton box looms, Southern plant $70-$80 wk. and bonus; weaving on Draper XD looms, 3rd shift $300-$350 month; weaving C.&K. S 6 looms 2nd shift $350 month; rayon and cotton slashing, warping, spooling; dyeing raw stock for carpet mill; frame and mule spinning; rayon warping and slashing $80 to $85; woolen raw stock and piece dyeing; finishing.
LOOM FIXERS; combination cotton card grinder and frame fixer, (South); fixer C. & K. and Draper cotton and rayon looms So. America $500-$600 month and transportation paid; mule fixers; hosiery machine fixers; jacquard loom fixer; laboratory technician; assistant designers Southern cotton mill.

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To take complete charge of cloth production, including Knitting, Dyeing and Finishing Departments. Large plant located in Pennsylvania, 90 miles from New York. Answers in complete confidence, stating experience in detail and salary requirements. Own staff is aware of this ad.

P-6631, Textile World
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MENSWEAR mill, manufacturing finest quality worsteds, requires a man with thorough experience in weaving and finishing, and able to assume responsibilities location in Philadelphia area. Write giving full details. Salary open.

P-6307 Textile World
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Large worsted manufacturer seeking Overseer with at least five years of Finishing Department experience, including Finish Perching. Prefer man at least thirty-five years old with some previous supervisory experience and pleasant personality.

Write **P-6122,** Textile World
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A Qualified Woolcomber

who is able to teach wool combing. Please set forth in letter background and salary expected. A house is available to the successful applicant.

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330 W. 42nd Street, New York 18, N. Y.

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Important manufacturer of textile chemical processing specialties offers unusually lucrative position to qualified sales representative to cover Alabama, Mississippi, Georgia, Tennessee. Practical mill background in textile dyeing and finishing essential. Good working knowledge of rayon and acetate processing desirable. State age, training, experience, references. Our organization knows of this advertisement.

RW 6634, Textile World
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TEXTILE CHEMIST—Research and development work in well-established Northeastern New York concern. Dyeing and processing experience on natural and synthetic fibers preferred. In replying state age, training, experience, and give references. P-6116, Textile World.

PLANT ENGINEER, for Supervision of maintenance and construction work in Wool Textile plant. One thoroughly familiar with mechanical, electrical and power problems. Permanent position. P-6325, Textile World.

WANTED—YOUNG Man, preferably textile school graduate who has had at least one year in field of manufacturing of synthetic yarns and fabrics, for position as assistant quality control man. Plant location in vicinity of Gastonia, N. C. Apply for appointment to P-6241, Textile World.

POSITIONS WANTED

BROAD CLOTH Superintendent Available. One who has a wide range of experience. Silk, synthetics, cotton, practical in all departments, a technician with business education. Best of references. PW-5850, Textile World.

WOOL EXECUTIVE desires change. Experienced grease, top, yarn-production and costs. State salary. PW-6292, Textile World.

POSITION WANTED: Overseer of dyeing, middle-aged, married, experienced on wool and rayon. PW-6287, Textile World.

PRODUCTION EXECUTIVE, eng. graduate, 20 years finishing experience, expert planning, cost control, material handling, administration, desires executive position with responsibility. PW-6220, Textile World.

Plant Manager

Dyeing, Printing, Finishing, thoroughly experienced, good executive, and production planner, quality and cost conscious desires connection with responsible organization.

P.W.-6629 Textile World
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TEXTILE ENGINEER

16 years total textile experience. 10 years as Chief Engineer of large textile weaving, printing & finishing plant. Charge of power & steam generation with variety of fuels. Water filtration maintenance, installation & machinery design. 4 years experience in design of special textile & bag factory machinery. Graduate E.E. Married. Age 41. Presently employed. Desires change. Write

PW-6495, Textile World
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Stylist and Superintendent of wide experience on Flat and Pile fabrics. Can write complete instructions and specifications for Jacquard and Dobby Looms, etc. With New York office and Mill experience.

PW-6614, Textile World
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For Bradford Spinning Plant

Manufacturing Knitting Yarns

Must have experience in all phases of Carding, Combing, Drawing, Spinning, Etc. for medium wools.

OUTSTANDING OPPORTUNITY

Replies will be treated confidential Address:

P-6628, Textile World
520 North Michigan Ave., Chicago 11, Ill.

Excellent Opportunity

Large garnetting and dyeing firm wishes to obtain the services of a young, experienced textile man to assume the position of Assistant Superintendent, or who can be trained for such a position. Woolen mill experience essential. State qualifications and salary expected. Address in confidence Charles P. Raymond Service, Inc., 294 Washington St., Boston, Mass. Over fifty years confidential employment service for textile mills and textile mill executives.

P-6613, Textile World
330 West 42nd St., New York 18, N. Y.

DYER WANTED

Large worsted manufacturer wants qualified mens wear Dyer experienced in dyeing of piece goods, civilian, worsteds, woolens and governments. Write

P-6123, Textile World
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CWA-6530, Textile World
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Additional Opportunity Advertising on Page 298

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To one man whose persistence overcame all obstacles goes the credit for the beginning of the textile industry in New Bedford. That man was Congressman Joseph Grinnell, who refused to invest in a cotton mill in Georgia, insisting it be built in New Bedford where he could watch the enterprise. New Bedford's capital was at that time tied up in the whaling industry; and investors were against the new cotton mill idea. So were the solid citizens and all the mechanics. But so firmly did Grinnell believe in the undertaking that he sank practically all of his fortune into the venture; and in 1849 the first Wamsutta mill opened. The rest is history.

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No. 5 of a Series

1—72" C & M 2-cylinder Brushing machine
1—39" Textile 5 Roll Calender
1—41½" Knit goods calender stainless steel rolls with motor Reeves drive
1—50" 2 Roll Textile Hydraulic Calender, 1 Steel & 1 Cotton Roll, Motor Driven
1—80" Butterworth 6 Bowl Calender, 3 Cotton, 3 Brass Rolls
1—60" V.V.I 3-cyl. Silk Calender
12—40" Lowell cards, 27" Doffers, 12" Coilers
9—60" x 48" Smith, D & F and Cleveland 3-cyl. card sets, wooden cyls. with auto. feeders, breast. Apperley Intermediate Feeds, 2-bank condensers
5—C&M Flock Cutters
3—48" D&F Rub Condensers, Double Bank, Double Apron with Spool Racks

All "Certified"

1—54" x 60" D&F 2-cylinder iron shoddy Cards with feeders
1—65" C&M Dewing Machine, motor driven
1—60" Windle 3C Doubler, motor drive
1—64" P&W Doubling & Rolling-up Machine with clock.
1—Set of 31-40" face Butterworth Dry Cans
1—96" P & S Loop Dryer
2—20 delv. Lowell & Saco Petee Drawing Frames 12" coilers
3—18" V. VL Stainless Steel Dye Jigs Motor Driven
1—Raw Stock dyeing equipment with 4-1000# Morton Dyeing Machines, Blowers, Feeders, Dryers, etc.

All "Certified"

1—Set 8 Textile Vertical 48"x23" Copper Dry Cans
1—36' P&S LoopDryer width 8'
1—36" C&M Duster
1—7' D&F Iron Cone Duster with Feeder
1—18" Copper Basket Extractor
1—26" Tolhurst Extractor, belt driven
1—32" Tolhurst Copper Basket Extractor
2—48" American Humatic Extractors with Copper Baskets Motor Driven
8—60" Tolhurst Copper Basket Extractors

All "Certified"

3—40", 42" E&H Flat Folders with take-up stands
1—Rodney Hunt M3, 2 string fulling mill, belt driven
10—40", 65" card and Napper Grinders
1—83" Roy Napper Roll Grinder
100—40" Draper Model K20 Har Dobby Looms
99—45½" reed space Model E Draper Automatic Looms with lacey tops 3 bank stop motions, warm take-up, belt driven

PRINTING EQUIPMENT

2—New 60" R. B. F. 6 Color Printing machines suitable for large pattern work.
2—New 50" R. B. F. 12 Color Printing machines.
1—Used 64" R. B. F. 8 Color Printing machine.

1—48" C&K 4 x 1 box Loom, 25 harness, belt driven, friction clutch
21—54½" C&K Box 20 & 25 Harness Dobby Looms
2—74" Heavy Duck Looms, roller top
12—80" C&K 4 x 1 Auto. 25 harness Veribest Looms, motor driven
11—82" C&K 2 x 1 automatic Looms, 8 harness cam motion, motor driven
8—100 C&K 2 x 2 Box Auto. Looms with Baker 3-mix attachments, 25 harness gem heads
6—110" C&K 4 x 4 Box Looms, 25 harness, belt driven
20—C & K 22' Ribbon Looms with intermediate Gem Heads, Belt Driven

All "Certified"

2—240 Spindle J & B 2" gauge Mules
75—New Leland & Westinghouse ½ and 1 HP 3/60/220 V Heavy Duty Motors. Also various size Rebuilt Motors
1—61" Woonsocket 2-cylinder Napper, 20 rolls to each cylinder
1—66" Gessner 16 roll single cylinder Napper
1—72" Gessner 18 roll single cylinder Napper

COMPLETE MILL UNIT PROFIT OPPORTUNITIES

* 3—Six to Fourteen Set Woolen Yarn Mills
* A Woolen Piece Goods Finishing Plant
* 3—Worsted Units
* 6—Cotton Mills 3,000-100,000 Spindles 105 Looms Narrow Fabric Weaving Plant for Ribbons, Tapes and Labels. Complete with Warping, Dyeing and Finishing Equipment
* 1—Novelty Yarn Plants
* 1—Twine Manufacturing Plant

All "Certified"

3—80" D&F 20 roll Single and double Acting Nappers
3—66" P&W 60 & 100 yd. Measuring Machines, belt driven
1—70" King & Gerber Tubing Machine with Veeder-Root counter
10—240-340-360 SP.J. & B. 1⅜ Ga. Mules
1—392 Spindle Smith 2" Gauge Mule

All "Certified"

1—30 x 30" Mezerra Wool Opener
1—48" D&F 2-Cyl Wool Opener with Feeder
1— 0" H&B Single Process Picker with Eveners, Kirschner Beater, Ball Bearing Beaters with Condenser
9—40" Kitson Breaker Pickers, Finisher Pickers and Single Process Pickers, motorized
1—48" C.D. Sargent Burr Pickers
3—48" & 54" Fearnaught Pickers
1—86" Voelker Press Motor Dr.
6—52", 65½, 66, Voelker and Gessner Single and Double Bed Rotory Cloth Presses
1—50 spindle Lindsey-Hyde Adjustable Reels
5—82", 92", 96", and 100" D&F Pin Type Reels, with creel, back stand, neck reed, warp reel beamer and warp compressor
2—60" P&W Single Blade Woolen Shears
1—50" Hermas Shear with C&M Stitcher

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1—66" Parks & Wilson single Blade Plush Shear
11—66½" P&W 2-blade Shears
1—76" C&M Double Blade Shears
1—80½" P&W Single Blade Shears
1—42" Firsching 20-knife Slitting Machine
2—Lowell 2 cylinder Slashers
1—40' Textile Clip Tenter, 60" opening with Housing
1—40' Hoey Clip Tenter, 60" opening with Housing
1—90' W & J S/S Clip Tenter, 102" opening with Housing
1—40' Kenyon Pin Tenter, 42" opening
1—70' Kenyon Pin Tenter, 46" opening

All "Certified"

1—60" C&M Single Brush type Tiger
1008 SP. S.L. 3" Ring Band Driven Twisters
96 H&B 4½" Ring Tape Driven Twisters
3—80 Spindle Hopedale band driven twisters 4½" ring, 5½" ga. Belt driven
1—240 spindle Draper Twister, 2" ring
2—8-string Hemmer Wool Washers
7—100 Sp. Foster Model 12 12A-21A Tube & Cone Winders
1—90 Sp. Foster Model 30 Cone Winder

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24—Frames F & J Spinning, 3" gauge, slip draft
1—Foster Winder #30, Tubes, 100 spd. m.d.
1—Foster Winder #30, Cones, 100 spd. m.d.
2—Foster Winders #30, Tubes, 100 spd. Belt drive
1—Foster Winder #30, Balloon spindles, belt drive
5—Foster Winders #12, Cones, Tubes, 100 spd. belt & m.d. Foster Emulsion Attachments, 100 spd., Foster #102 Winder
24—C & K 82" Automatic Looms, 4 x 1 Box, W-3 m.d.
18—C & K 68" Plain Looms, 4 x 4 box, m.d.
4—C & K 82" Automatic Looms, 4 x 1 Box, Veribest, m.d.
10—C & K 80" Plain Looms, 4 x 4 Box, Gem Heads, m.d.
17—C & K 48" Plain Looms, 4 x 4 Box, Gem Heads, belt driven
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50—Draper Model P Looms, 59½" r.s., Dwight Tops, m.d.
54—Draper Model XP, 66½" r.s., Brown Tops, m.d.
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3—3 cylinder Davis & Furber Wool Cards, iron, Tape, Condenser, 96 end
1—Winsor & Jerauld 90' x 100" Tenter Frame, A & G Housing
1—Butterworth 90' x 42" range, Housing, Mangle, Cans, m.d.
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10,000—NEW Fibre Head Twister Bobbins
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2—2-roll 60" Quetch.
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1—Cocker High Speed Warper.
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1—Set 8 Copper Dry Cans, 72"
1—P&W Napper, 62' face
8—Dye Becks, 12'-14' long, with reels
1—National Loop Dryer, 84' wide
1—Van Vlaanderen Tuber, 50" motor
1—Friction Calender, 3 rolls, 50"
4—Cottage Steamers
6—Morrison Dye Jiggs, 50"
1—Set 42 S.S. Dry Cans, 50"
1—Hercules Extractor, 60"
1—Smith-Drum Rotary Dye, 100 lbs.
1—Hydraulic Calender, 3 rolls, 60"
1—P&S Skein Hurricane Dryer
1—Van Vlaanderen Calender, 3 rolls, 46⅓"
1—Woonsocket Napper, 36 rolls, 50"
1—Werner Palmer Quetsch Unit, 48" width
1—P&S Loop Dryer, 50' long
1—Morrison Rayon Calender, 50"
1—Grand Rapids 3 roll Steam Calender
1—K&G Embossing Calender
1—Butterworth Calender, 3 bowl, 50"
3—John Hope Pantograph, 51" width
1—Butterworth Hydraulic Baling Press
1—Rotary Plate Singer, 50"
1—Color Kettle, 30 gal.
1—Van Vlaanderen Padder, 50"

COMPLETE MILLS

Print Cloth Mill—17,000 spindles
Cotton Spinning & Weaviing, 15,000 spindles, 400 looms
Cotton Spinning & Weaving, 12,200 spindles, 300 looms
Cotton Spinning, 3,500 spindles
Worsted Spinning, 3,500 spindles
Worsted Mill, 5,340 spindles
Woolen Mill, 1,200 spindles, 20 looms
Woolen Spinning, 1,600 spindles

WEAVING

110—Draper Hopedale Rayon, 40"
200—Model E Draper, 47½" r.s.
24—Draper 82", 2x1 box
24—C&K 82", 2x2 box
12—C&K 82", 4x4 box
20—C&K Narrow Fabric, 42 space
50—C&K 46", 4x1 box, automatic

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1—Saco-Lowell Vertical Opener
1—Jenks Mixing Picker, 30"
1—Whitin Roving Picker
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1—P&S Double Doffer Garnett
1—Butterworth Hydraulic Baling Press
2—Worsted Cards with Gill Box
3—Furbush Cards, 48x60
1—D&F 46x48 Wool Card, iron
50—H&B 45" Cards
27—H&B 40" Cards
4—Saco-Lowell Jack Spoolers
1—Model M.H.S. high speed Spooler
35—H&B Spinning Frames, 256 sp. 3" ga.
24—F&J Spinning Frames, 216 sp. 3" ga.
4—Whitin 7x3⅓ Roving Frames, 176 sp.
2—Saco-Pettee 10x5 Roving Frames, long draft
2—J&B Mules, 360 sp. 2¼" ga.

WINDING

12—Universal Winders #90, 20 sp.
2—Foster Winders #12, 40 sp.
3—Saco-Lowell Lap Winders, 9"
2—Foster Winders #101, 80 sp.
3—Staubli Cap Winders
3—J&B Filling Winders

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3—Harwood 60" Garnett Feeds
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1—Hunter 2 cyl. 30"x60" Garnett with breast and feed, b.b.
1—Hunter 7 section Raw Stock Dryer
1—D. & F. 7' all iron Cone Duster
1—C. & M. Parkhurst 48" Burr Picker with Feed.
1—S. F. 36" Lumper, b.b.
1—Sargeant 48" Rag Duster
1—Clark 46", 12 bar Mixing Picker (new)
5—Schofield 18"x30" Waste Pickers
1—Schofield 42" Carding Rag Picker
2—Schofield 48" automatic Dusters (Box)
1—C. & M. 48" Fearnaught Mixing Picker
1—J. & B. Mule, 3½" ga. 210 sp.
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1—Whitin 378 sp. Quiller, 2½" gauge
3—J. & B. Jackwinders
2—Altemus Pinless Warpers, rebuilt to order
3—Altemus Long Chain Beamers
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2—Rodney Hunt Slack Washers
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1—Philadelphia Truck Skein Dryer
2—Sets Squeeze Rolls, 11' long, 6½" dia.
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1—C&M 60" Power Perch
1—Woonsocket 80", 36 roll, D. A. Napper, Mtr. Dr.
1—P&W 66" Double Cloth Shear
2—P&W 66" Plush Shears
1—Gessner 66" Heavy Duty Press
1—Perkins Cloth Piler 72" Trav.
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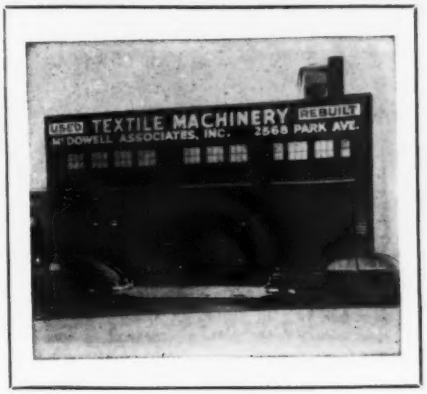

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66 Draper E 42" belt
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20 Draper D 66" motorized
24 Draper D 76" motorized
24 Draper L 90"
18 C&K 4x1 auto. 45" motorized
17 C&K 4x4 box 48" belt
24 C&K 4x1 auto. 48" motorized
10 C&K 2x1 auto. 52" motorized
18 C&K 4x4 box 68" motorized
4 C&K 4x1 auto. 82" motorized
10 C&K 4x4 box 82" belt
108 C&K 4x4 box 82" motorized
4 C&K 4x4 box 92" motorized
2 C&K 4x4 box 110" belt
3 C&K 4x4 box 115" belt
8 S&U 28 space Circular shuttle
4 Batchers 48", 50", 58" & 68"
2 Brushes horizontal, 36" & 54"
1 Brush, vertical, 54"—6 roll
1 Lot new woolen card clothing
1 New Flynn 60" card clothing tension machine
1 Calender, friction, 3 roll 43½
1 Calender 3 roll, 100"
1 Calender, hydraulic, 2 roll, 50"
1 Calender, hydraulic, 3 roll, 60"
1 Carbonizing Range, Piece Goods
1 Card, Wool, 3 cyl. 48"x48" tape Condenser
1 Card, Wool, 4 cyl. 48"x60" Tape Condenser
1 Card, Worsted, 2 cyl. Iron, 60" wide
2 Condenser, Tape, 96 End, 48" Cards
1 Condenser Tape 96 ends, 60" card
1 Creel, 432 spindle, 6" centers
2 Doublers, cloth, 66½"—72" each
2 Doublers yarn, 60 spindles each for tubes
1 Doubler & Folder, combination, 72"
1 Dryer, loop, 84" housing, etc.
1 Dryer, Raw Stock 1200 lbs. per hour
1 Dryer, Pin, housing, heaters, etc.
6 Extractors, 32" to 60", belt & Motor
1 Extractor, vacuum, 78", motorized
2 Feeds, picker, 40" & 54"
2 Feeds, Card, 48" & 60"
1 Fulling Mill, double compartment
2 Garnetts 60", 3 & 4 cyl. units
1 Grinder, Napper, adj. 60" to 120"
2 Inspecting & Winding, 46" & 100"
1 Mangle, 3 roll, 120"
2 Measuring Machines, 42"—50"
2 Mules, 288 spindles, 2⅛" gauge
6 Mules, 360 spindles, 2½" gauge
2 Mules, 480 spindles, 1¾" gauge
1 Napper, 12 roll 72" S.A. motorized
1 Napper, 20 roll 80" D.A.
1 Napper, 36 roll, 80" D.A. belt
1 Napper, 24 roll, 86" D.A. belt
1 Palmer, 64½" face, motorized
1 Padder, new, 2 roll, 84"
6 Perches, ceiling type, 90"
1 Picker, mixing, 48" B.B.
1 Picker, Fearnaught, 48"
1 Picker Shoddy, 30", belt
1 Press, Rotary, 66"
5 Sewing Machines, Rotary Foot Power
4 Sewing Machines, Railway 40" to 64"
1 Scutcher, 72", Brass Scroll Rolls
1 Slasher, hot air type
1 Slitter, 4 knives, 82" width
6 Slubbers, 10x5, 11x5½, 12x6
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3 Shears, Double, 66½", List Savers
1 Shear, Davidson, High Speed, 66½"
1 Shear, 4 blade 60"
1 Singer, 2 burner, 48"
15 Spinning Frames, Cotton, 1⅜", 1¾", 2" & 2¾" ring
5 Spinning Frames, Wool, 3" ring
6 Thread Dressers & Polishers
2 Teasel Gigs, 2 cyl. 66"
1 Warper, 54", Spool Creel, 500 end
1 Warper, 54", Magazine Creel
1 Winder, 40 spindle, Skein to Cone
5 Foster 102 Cone Winders 100 spindles each

COMPLETE MILL UNITS

Cotton Spinning Mill Approx. 6,000 spindles with looms.
Worsted Spinning Unit Approx. 2,000 spindles.
Woolen Mill Approx. 3,000 spindles, looms, dye finishing, etc.
Wool Skein Dyeing Plant.

10—2 cyl. 60" worsted cards
2—2 Spindle intersecting gill boxes
1—6 Spindle draw box
1—8 Spindle draw box
2—8 Spindle finishers

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BLOWERS, G.C. 8x5-3/5" 350 cu. ft. per min.
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DRY CANS, set of 8, 72"x23" dia. horizontal
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DRYER, Loop 84", 10 fans, revolving poles
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DYE DECK, 2' Sample, stainless steel lined
DYE TUB, 8' stainless steel lined
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DYEING MACHINES, Smith-Drum Pocket type
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EXTRACTOR, 26" American, Motor driven
EXTRACTOR, 48" Burkhardt, rubber basket
EXTRACTORS, Beam 50" & 60" B.B.
EXTRACTOR, K&G 48" rubber lined basket
FLAT FOLDERS, Elliott & Hall adjustable
INFRA RED Units complete with blowers
INSPECTION TABLES 47"
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7 Late Type U. S. Textile Redraws 80 Spindles Motorized

Complete with Tensions, etc.

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54" Reedspace

10—C & K 2 x 1 Roller Bearing, Shock Absorber, heavy bar, individually motor driven, 20 harness dobby

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4—Universal #90 Coppers
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All equipment in excellent condition

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14—60" C & K Looms
14—1304 Hook Jacquard Machines
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1—Sipp 72" Wraper

Together with all auxiliary equipment for complete running plant

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Eastwood and Sipp Warpers 84", 72"
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1—Shade Machine
2—Mangles
2—Sizing Tanks
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NEW HERMAS 58" Measuring machine. Running C & K, Draper plants.
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24—C.&K. 4x1, 72" looms
24—C.&K. 2x1, 72" looms
48—C.&K. 100 Draper Mod. D. 50"
72—Draper Model E 47½"
60—Draper Model E 45"
40—C.&K. 2x1, 52"
24—C.&K. 4x4, 100"
36—4x4, 82"
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24—WOONSOCKET Cards 40", 12" coilers
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  1—60" Arlington Pneumatic Padder
  1—60" Textile 3-roll Chemic Padder
  1—72" Totally enclosed steam jacketed Ageing Box
1—60" Cloth Ager
4—60" Stainless Steel Dye Jiggs
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3—48" Fletcher Extractors
1—80' Butterworth Tenter Frame, opens to 50"
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1021—Marshall & Williams top opening Clips, stainless steel inserts
1187—Van Vlaanderen Tenter Clips, stainless steel inserts
1—Van Vlaanderen 6-tier Net Dryer
1—17-can Butterworth Dryer, stainless steel cans 23" dia. x 130" face, vertical frames, Johnson joints, etc.
1—24-can Butterworth Dryer, new stainless steel cans 23" dia. x 72" face, vertical frames, Johnson joints
1—37-can Phillips Dryer, 30" dia. x 86" face copper cans, horizontal frames
1—40-can Textile Dryer, 23" dia. x 72" face copper cans, horizontal frames
2—41-can Dryers, 23" dia. x 54" face copper cans, vertical frames
1—60" 2-roll verduin Hydraulic Padder, rubber covered rolls
1—44" 2-roll Padder, rubber covered rolls
1—16" 2-roll Squeezer
1—50" Vlaanderen 2-roll Quetch
1—50" Morrison 2-roll Quetch
1—60" Slip Belt Batcher
1—50" Morrison Batcher
1—50" Swing Folder
1—50" Hermas Inspecting and Measuring Machine, motor driven
3—64" Cloth Tubing Machines, motor driven
1—60" Voelker Cloth Press
8—"Lightnin" Portable Mixers
4—Hussong Skein Dyeing Machines, 400 lb. capacity, stainless steel lined tanks, stainless steel holders
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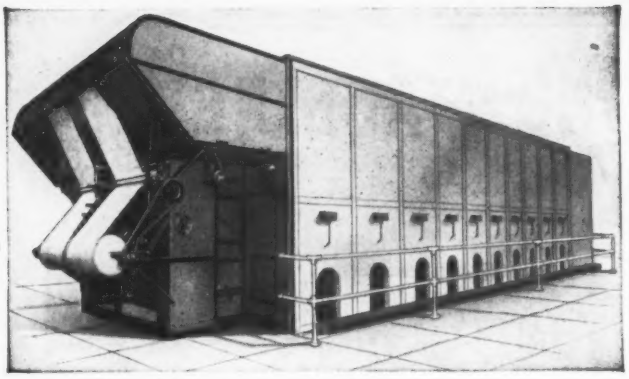

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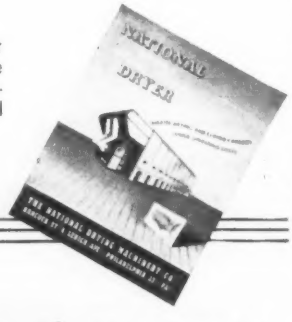

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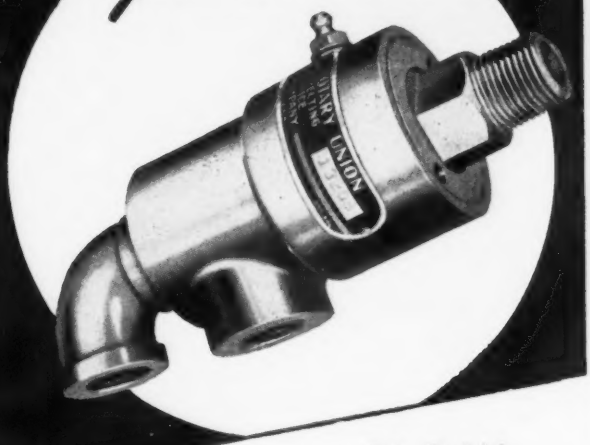

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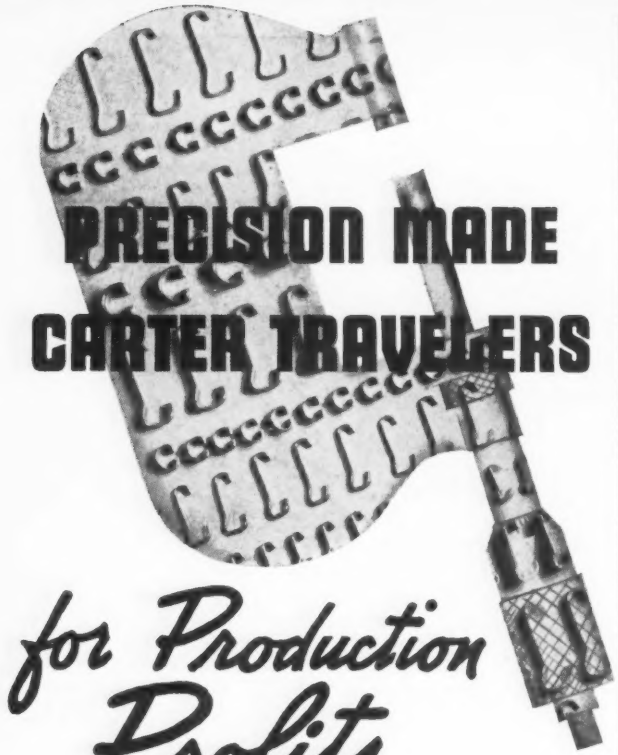

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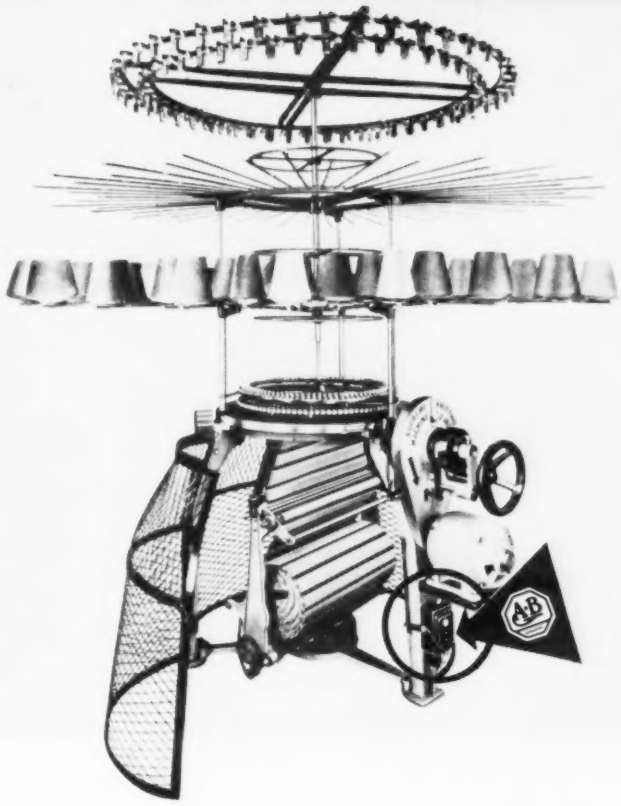


Model MJ Wide Stripe Circular Jersey Machine, manufactured by the Supreme Knitting Machine Co., Inc., Brooklyn, N. Y. It is equipped with an Allen-Bradley Bulletin 609 Manual Starting Switch. Overload breakers protect the motor and machine.

Manual Trouble-Free MOTOR STARTERS for KNITTING MACHINES

The motor starters for your textile machines should be selected to fit the starting requirements of each machine.

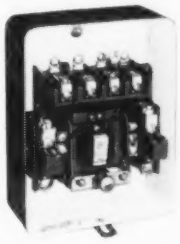
For some machines, like the Supreme Wide Stripe Jersey Machine, shown above, a Bulletin 609 Manual Across-The-Line Starter is correct. But for other machines, remote or automatic motor control is essential, especially if the installation involves temperature regulators or operation from several stations. Such machines call for Allen-Bradley Bulletin 709 Solenoid Starters.

For roving and spinning frames, manual or automatic across-the-line starters will not do. What is needed is velvet-smooth starting, from standstill to full speed, to prevent thread breakage. Such machines need Allen-Bradley Bulletin 640 Manual or Bulletin 740 Automatic Resistance Starters.

All Allen-Bradley starters have double-break, silver-alloy contacts, which are maintenance free. They have many other advantages fully described in special bulletins which we shall be glad to send you. Why not ask an Allen-Bradley control engineer to show you the latest Allen-Bradley developments in textile mill motor controls?

Allen-Bradley Co., 120 West Greenfield Ave., Milwaukee 4, Wis.

Bulletin 609 Manual Starter with cover removed to show two overload breakers.



Bulletin 709 Magnetic Starter for automatic control. Will not reclose, after line failure, until operator pushes start button.

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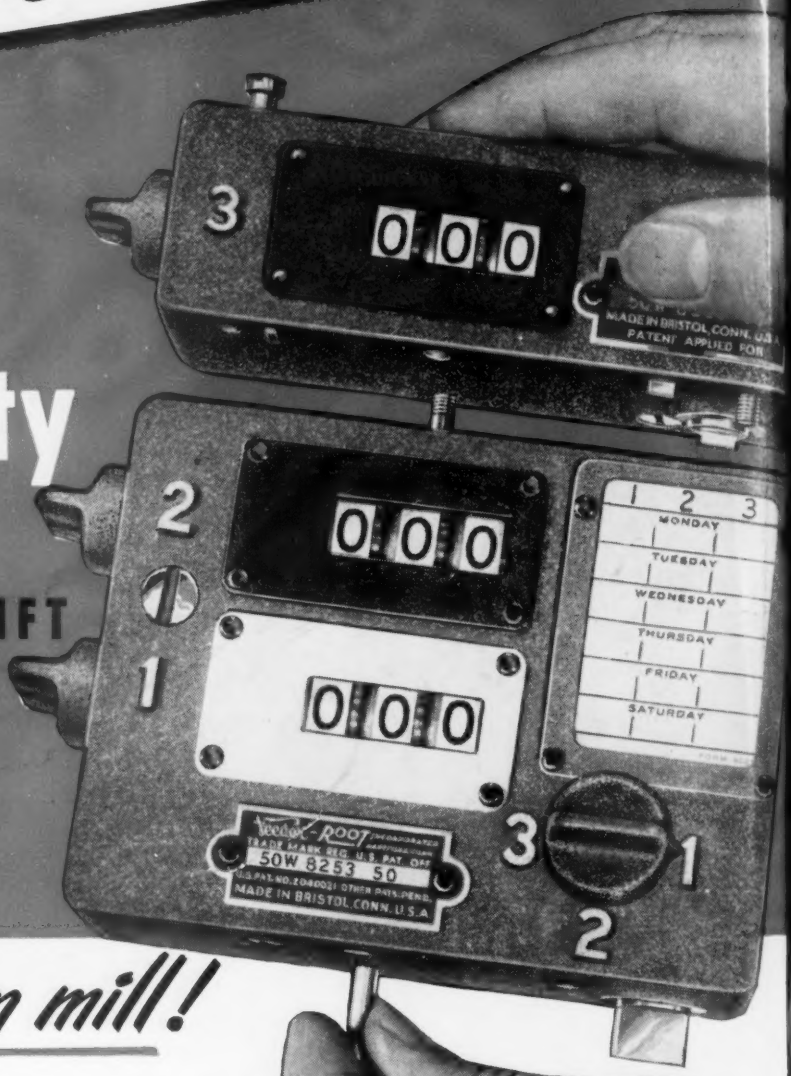
QUICK Convertibility

FROM 2 TO 3 SHIFT OPERATION



...right in your own mill!

HERE'S HOW EASY IT IS:

1. Remove 2 seals and oiler . . . then just attach the 3rd-Shift Counting Unit to the top of the 2-Shift 2-3 Pick Counter (as shown), with the three brass screws furnished.

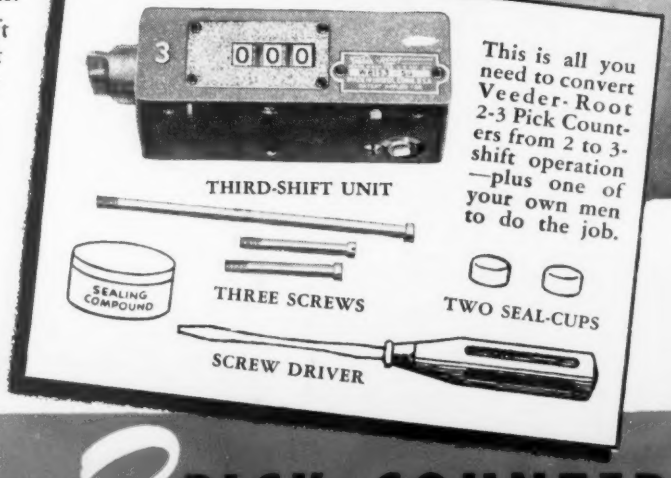
2. Tighten the screws with a screwdriver . . . replace seals and oiler. *And the job is done!*

Your own men can do this job . . . *in your own mill* . . . in a few minutes per counter. There's no appreciable disruption of production . . . or of production records.

What's more, you don't have to buy these 3rd-Shift Counting Units *until you convert* from 2 to 3-shift operation. This quick, money-saving convertibility is one of the many exclusive features of Veeder-Root 2-3 Pick Counters. Watch this space for other important features to follow. And get in touch with your Veeder-Root Field Engineer on *all* your current counter needs . . . for looms, frames, and all other types of textile machinery.

VEEDER-ROOT INC., HARTFORD 2, CONN.

OFFICES IN: Boston, Chicago, Cincinnati, Cleveland, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, St. Louis, San Francisco, Montreal, Buenos Aires, Montevideo, Mexico City. *In England:* Veeder-Root Ltd., Dickinson Works, 20 Purley Way, Croydon, Surrey. *In Canada:* Veeder-Root of Canada, Ltd., Montreal.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THIRD-SHIFT UNIT
This is all you need to convert Veeder-Root 2-3 Pick Counters from 2 to 3-shift operation—plus one of your own men to do the job.
SEALING COMPOUND
THREE SCREWS
TWO SEAL-CUPS
SCREW DRIVER

VEEDER-ROOT 2-3 PICK COUNTERS

Reset and Non-Reset